GLOBAL PRIVATE EQUITY REPORT 2023

BAIN & COMPANY

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Due diligence. We help support better deal decisions by performing integrated due diligence, assessing revenue growth and cost-reduction opportunities to determine a target's full potential, and providing a post-acquisition agenda.

Immediate post-acquisition. After an acquisition, we support the pursuit of rapid returns by developing strategic blueprints for acquired companies, leading workshops that align management with strategic priorities, and directing focused initiatives.

Ongoing value addition. During the ownership phase, we help increase the value of portfolio companies by supporting revenue enhancement and cost-reduction initiatives and refreshing their value-creation plans.

Exit. We help ensure that investors maximize returns by preparing for exit, identifying the optimal exit strategy, preparing the selling documents, and prequalifying buyers.

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Bain & Company, Inc.
131 Dartmouth Street
Boston, Massachusetts 02116 USA
Tel: +1 617 572 2000
www.bain.com

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Perfect Storm or Tempest in a Teapot?

Dear Colleague:

It's easy to think of Dickens and *A Tale of Two Cities* when looking back on 2022 (although I think we are in a cycle that exceeds the boundary of a calendar year). The first six months resembled 2021's record-breaking activity: incredible numbers of deals, lots of exits, and substantial funds committed to the chase for the next five years.

Then something happened in June—in short, the Federal Reserve happened. The move to raise interest rates by 75 basis points, and then keep raising them, was a shot heard round the world, signifying the end of cheap debt in buyout markets and sparking strong concerns about persistent inflation. The rate increases fueled speculation about recession, which, in turn, spooked banks from providing leveraged loans. The dominoes fell from there, toppling year-end totals for deals, exits, and fund-raising. The "pause" has continued into 2023, and its persistence will be determined by how quickly macro factors stabilize.

The trends changing the PE landscape that we look into deeply this year include the real and imagined impact of web3 on investment markets, the drive for individual or retail capital by GPs, and what the great energy transition really means for investors. Lastly, we peer into our crystal ball to gauge the impact of persistent inflation on PE portfolios and come up with a rather counterintuitive but simple solution to preserve returns for LPs.

We hope you enjoy our *Global Private Equity Report 2023*, and we look forward to seeing many of you in person this year.

Hugh MacArthur
Chairman, Global Private Equity

Private Equity Outlook in 2023: Anatomy of a Slowdown

Inflation and rising rates put an end to the extraordinary post-Covid surge in dealmaking, setting up a challenging year ahead.

By Hugh MacArthur, Rebecca Burack, Graham Rose, Christophe De Vusser, Kiki Yang, and Sebastien Lamy

As extraordinary and resilient as the post-Covid rally in global private equity proved to be, it was ultimately no match for the Fed.

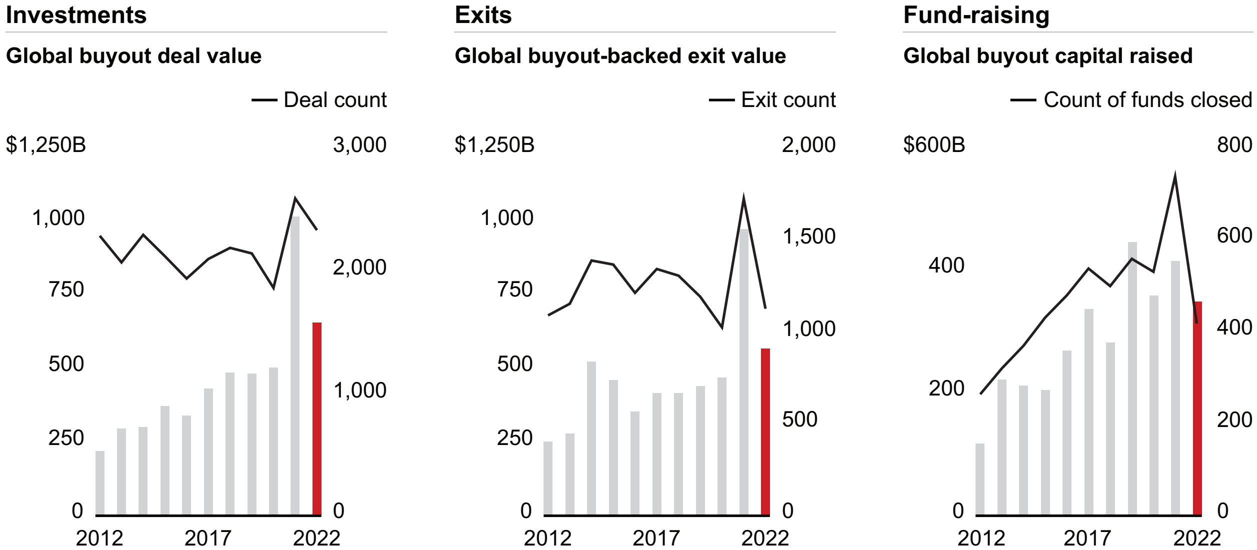
For the first six months of 2022, the industry extended 2021's record-shattering burst of deal activity, despite persistent inflation, the invasion of Ukraine, and growing tensions with China. Then, in June, when US central bankers issued the first in a series of three-quarter-point interest rate hikes—and their colleagues around the world followed suit—banks pulled back from funding leveraged transactions and dealmaking fell off a cliff, pulling exit and fund-raising totals down with it *(see Figure 1)*.

Given the heights from which they fell, buyout deal value ($654 billion), exits ($565 billion), and fund-raising ($347 billion) all finished 2022 with respectable totals in a historical context *(see Figure 2)*. But the sudden reversal marked the end of an up cycle that has endured (with a brief Covid brake tap) since 2010, when the industry emerged from the global financial crisis and produced a 12-year run of stunning performance.

It remains to be seen whether the abrupt shift from accommodation to tightening will trigger what could be called the most anticipated recession in history that hasn't happened yet—at least not in the US. A tight labor market and lingering Covid-related stimulus have so far kept the economy limping along. (The fleeting two-quarter dip in 2022 wasn't officially deemed a recession.)

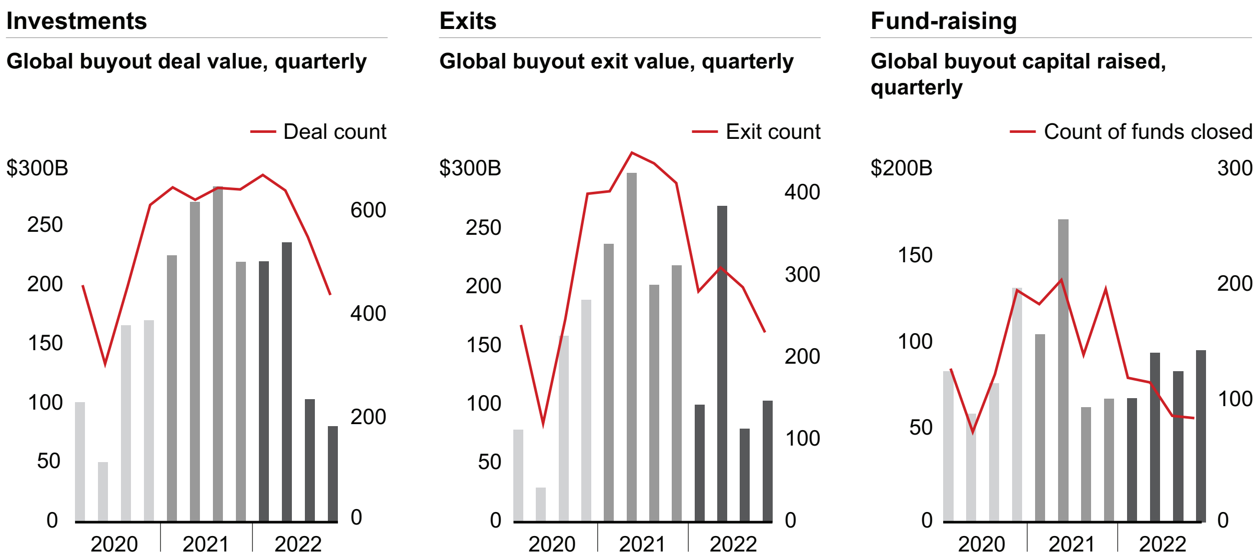
Yet there's no denying the impact of the unprecedented mix of macro forces in play *(see Figure 3)*. The resulting rise in rates has already shut off the spigot of cheap, obtainable debt financing. And

Figure 1: Investments, exits, and fund-raising all declined in 2022 as macro forces took their toll



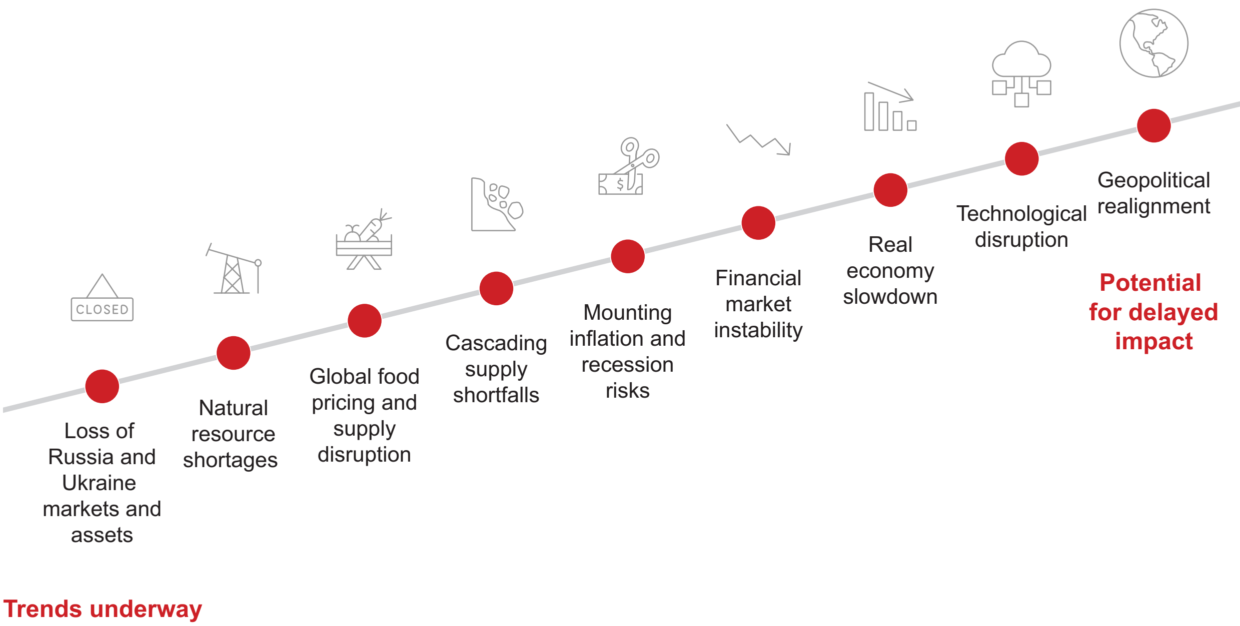
Notes: Investments—excludes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; Exits—includes full and partial exits, bankruptcies excluded; IPO value represents offer amount and not market value of company; Fund-raising—data grouped by the year in which funds held their final close; count is of all funds, including those for which final close data is unavailable; buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; excludes SoftBank Vision Fund
Sources: Dealogic; Preqin; Bain analysis

Figure 2: Dealmaking and exits slowed through the second half of the year, while fund-raising remained below 2021's peak



Notes: Investments—excludes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; Exits—includes full and partial exits, bankruptcies excluded; IPO value represents offer amount and not market value of company; Fund-raising—data grouped by the year in which funds held their final close; count is of all funds, including those for which final close data is unavailable; buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; excludes SoftBank Vision Fund
Sources: Dealogic; Preqin; Bain analysis

Figure 3: The current macro environment poses a range of significant challenges



Source: Bain & Company

deep ambiguity about the future course of global economic activity is likely to cast a shadow over the private equity value chain through 2023's first half, if not beyond.

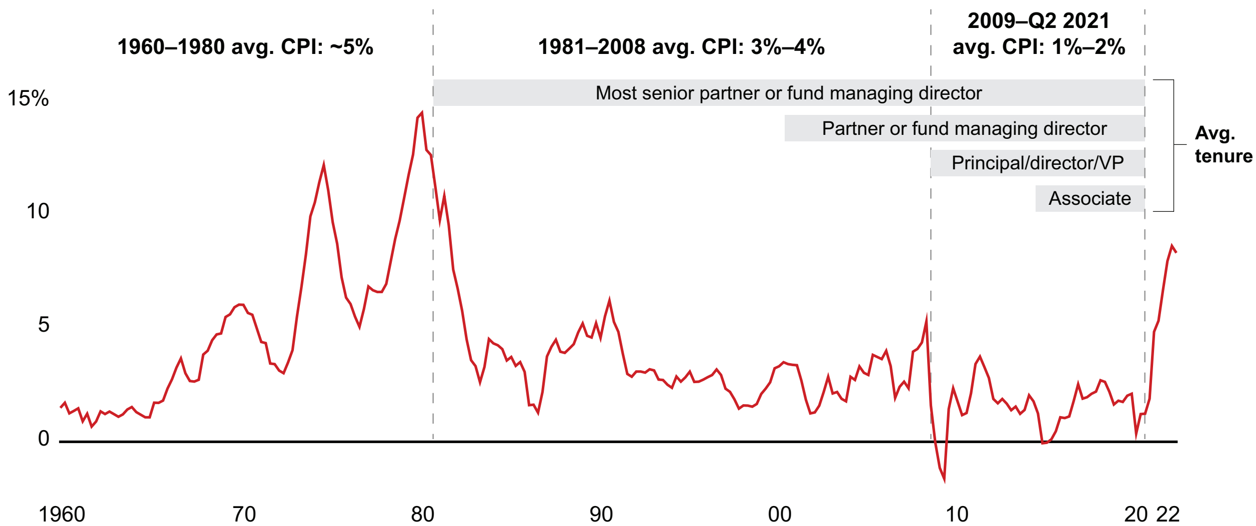
What makes the current economic slowdown different from the one brought on by the global financial crisis is the lack of clarity about what's happening. There's no Lehman collapse, no housing meltdown, no sharp falloff in economic activity to signal a definitive sea change. Instead, the global economy is presenting investors with conditions few among them have ever seen before. As if war in Europe, energy shocks, and supply chain issues weren't enough, inflation hasn't been this high or persistent in 40 years *(see Figure 4)*. The resulting rise in interest rates has reversed a downward trend that has defined investment markets for as long as anyone can remember.

The net result is the dreaded "U word"—uncertainty, a deal killer if there ever was one. As buyers, sellers, and lenders all wait for clarity around the economic forces that could affect cash flows, uncertainty will continue to act as a cap on deal activity, especially for the largest transactions that require the most leverage. Dealmakers are still finding ways to finance smaller transactions with private credit and larger equity infusions. But the overall decline in new deals and exits will likely persist, creating a knock-on effect for fund-raising.

Limited partners (LPs) will need time to work through imbalances in their portfolios brought on by market swings and a slowdown in cash back from previous commitments. The short-term cash squeeze

Figure 4: With inflation hitting its highest levels in 40 years, most private equity fund managers are in uncharted territory

US Consumer Price Index growth rate (all items, quarterly rolling annual percentage change)



Notes: Shows quarterly growth rate from the same period in the previous year, not seasonally adjusted; tenure estimated using data across the 30 top buyout firms determined by cumulative fund-raising totals over the last 10 years
Sources: US Bureau of Labor Statistics (data through July 1, 2022); Bain Aura[SM] talent analytics platform; Bain analysis

will make it difficult for them to extend new commitments, especially after several years of record-breaking allocations to private equity. Raising new capital will be particularly hard for midsize generalist funds as LPs continue to favor specialists and large funds with top-tier performance. The same could be said for general partners (GPs) challenged to generate distributions because their exit volume is dependent on the (now-moribund) market for initial public offerings.

How long these conditions will last is impossible to predict with any accuracy. But amid the short-term gloom, there is nothing to suggest the long-term outlook for private capital is any less positive than it was in 2021. Indeed, after attracting an astonishing $10.7 trillion in capital over the last decade, the industry may be getting even more appealing as investors continue to chafe at the limitations of the public markets.

The number of US public companies has declined by about a third over the last 25 years, and the remaining pool is dominated by a handful of large tech firms that hold disproportionate sway over the indexes. That makes it increasingly difficult to find adequate diversification in the public markets. Private market returns, meanwhile, are outpacing public returns over every time horizon, while alternative funds provide access to the broad global economy and the fullest range of asset classes. These advantages explain why private markets continue to grow relative to the public markets.

GPs are stoking that growth through ongoing product innovation. They have steadily developed new types of fund structures across asset classes, helping the industry become increasingly attractive to LPs with highly specific allocation requirements. While buyout remains the industry's largest asset class, a variety of others have been growing at double-digit rates *(see Figure 5)*. GPs are also diversifying their sources of growth by structuring products for massive, but relatively less penetrated, pools of capital like sovereign wealth funds and wealthy individual investors.

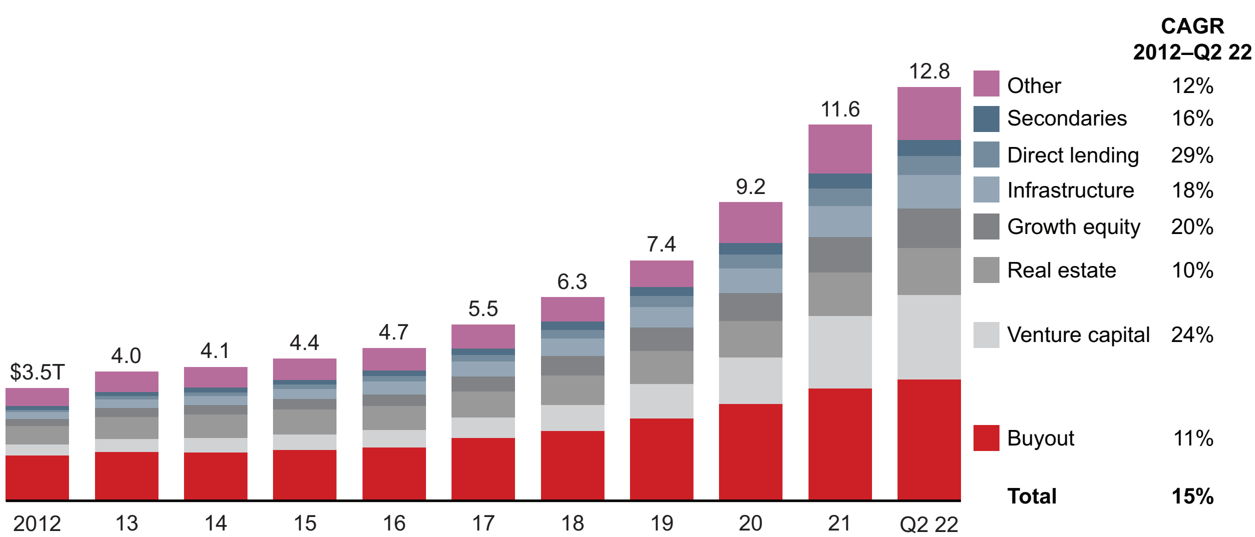
History suggests that clear sight lines—not ideal economic conditions—are what will bring the energy back to dealmaking. If interest rates remain higher, GPs can work with that; if uncertainty persists, so will the hesitancy to commit. The industry ended 2022 with a record $3.7 trillion in dry powder, so GPs will be eager to put it to work as soon as possible. But buyers, sellers, and lenders are all looking for clearer signals about where GDP is headed and how much further the rates hikes have to go.

The lessons from the last downturn are particularly useful in plotting a course through this time of uncertainty and turbulence. Put succinctly, the winners didn't panic last time around. They properly assessed their risk scenarios, created mitigation plans, and set themselves up to accelerate out of the downturn. This has implications for both dealmaking and portfolio management.

Mitigating risk. Confidence boils down to learning how to underwrite risk in a time of great macro uncertainty. This confidence flows from a different set of muscles than most GPs are used to exercising.

Figure 5: Buyout continues to expand, but most other alternative asset classes have been growing faster over the last decade

Global AUM by asset type ($T)



Notes: Buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; other category includes fund-of-funds, mezzanine, natural resources, hybrid, private investment in public equity, and real assets
Source: Preqin

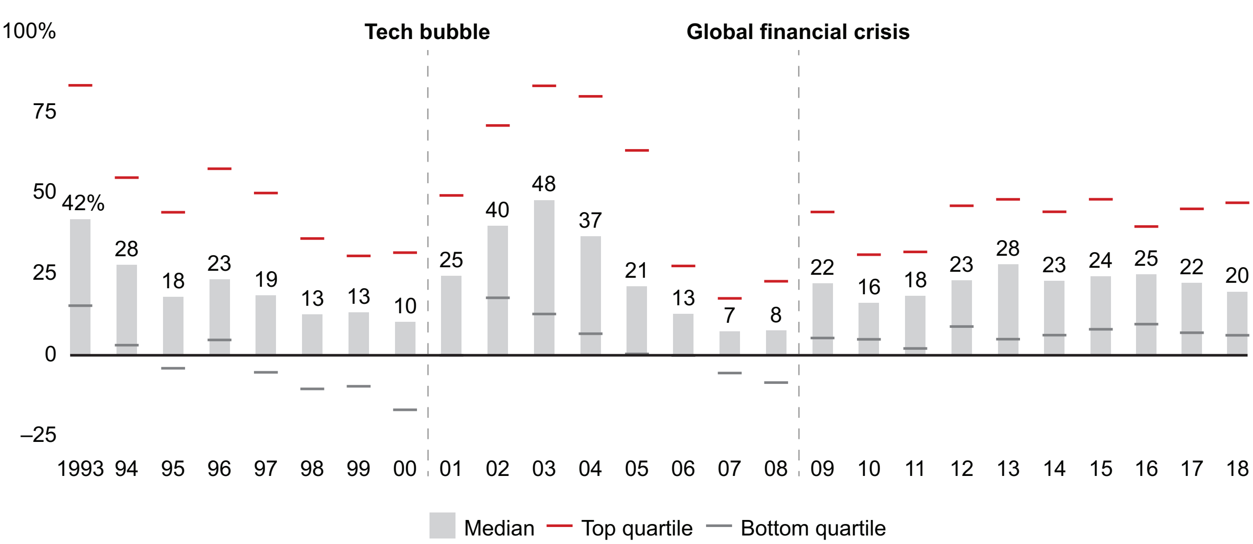
Deal teams have become increasingly specialized over the past cycle and may have a keen understanding of how to evaluate the micro forces impacting a target company. But once every 10 years, macro matters—a lot—as the danger increases that the world will shift under your feet.

The due diligence challenge is to analyze with specificity how these shifts might impact your company and its industry. There may be 10 macro factors out there disrupting global activity, but chances are, only 2 or 3 of them really matter for your deal. The question then becomes, what is the range of scenarios or possible outcomes relative to those critical few macro factors, and what is your mitigation plan for each scenario? This process is about considering a fan of possible outcomes (not just the one or two most likely) and thinking through whether the fan is asymmetrically good or bad.

The winners last time around used this kind of insight to get back in the game as quickly as possible. The data is clear: Deals done through a downturn generate superior returns over time *(see Figure 6)*. Leaders keep finding deals that they like and can underwrite confidently by making sure the macro factors are accounted for. They also stay aggressive and aren't deterred by lingering adverse capital conditions. If a deal targets a good asset at a good price, it may be worth getting it done with more equity or a higher price on the debt than you'd like. You can always fix the balance sheet when conditions improve, but waiting risks losing a valuable opportunity to profit from the rebound.

Figure 6: Investments made coming out of a downturn typically generate superior returns over time

Global buyout deal IRR by year of entry



Notes: Includes fully and partially realized deals; all figures calculated in US dollars; post-2018 data not shown, as most deals entered later than 2018 are still unrealized
Source: DealEdge powered by CEPRES data (as of December 22, 2022)

Preparing companies to win. Within the portfolio, overreaction is deadly. When the cycle turns, the impulse is to start selling the furniture at portfolio companies and slashing costs to the bone. That may shield the balance sheet for a while, but it will inevitably cripple performance. While it makes practical sense to conserve cash, draw down lines of credit, and otherwise build a war chest for surviving a recession, it's also important to look for opportunities to stay on offense.

Accelerating out of recession starts with taking a fresh look at a portfolio company's competitive position and plotting how to use the downturn to take market share from competitors.

Accelerating out of recession starts with taking a fresh look at a portfolio company's competitive position and plotting how to use the downturn to take market share from competitors. This always depends on subsector dynamics and the strength of the competition. But the companies that are prudently aggressive—vs. conservative and reactive—are the ones that shift profit pools during recessions. Discerning opportunity, while mustering the wherewithal and courage to go after it, ends up generating superior performance over time.

Now for a more detailed look at what happened in 2022.

Investments

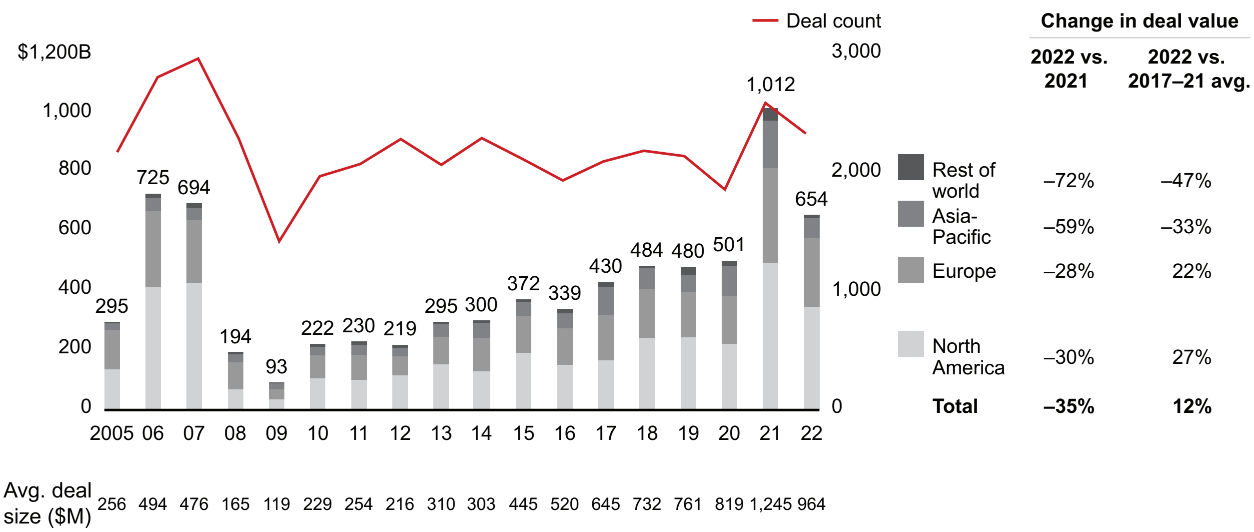
While alternative investments overall trended downward in 2022, the buyout and growth categories took the brunt of the macro headwinds.

Buyout blues. Global buyout value (excluding add-ons) totaled $654 billion for the year, a 35% decline from 2021. Overall deal count, meanwhile, fell 10% to 2,318 transactions *(see Figure 7)*. In terms of value, 2022's was still the second-best performance historically. But that's because of the extraordinary momentum in the year's first half.

Coming off 2021, when the industry completed deals worth $1 trillion, dealmakers charged into the first few months of 2022 seemingly intent on generating another trillion-dollar year. But when central bankers around the world began tightening down to combat persistently high inflation, second-half activity fell off precipitously in every major region *(see Figure 8)*. The especially sharp drop-off in Asia-Pacific dealmaking reflects repeated market shutdowns due to Covid restrictions. Buyout count fell or growth was muted across all sectors, although technology retained its nearly 30% share of all buyout deals globally *(see Figure 9)*.

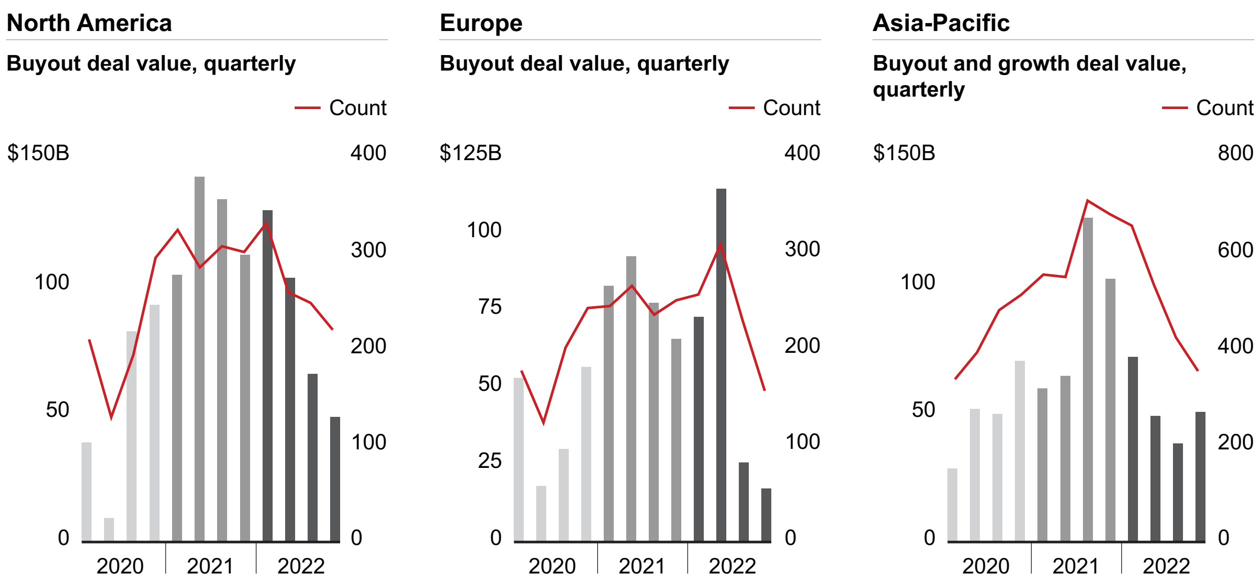
Figure 7: Global buyout value dropped by more than a third in 2022 as banks veered away from large transactions over the summer

Global buyout deal value, by region



Notes: Excludes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; geography based on target's location; average deal size calculated using deals with disclosed value only
Sources: Dealogic; Bain analysis

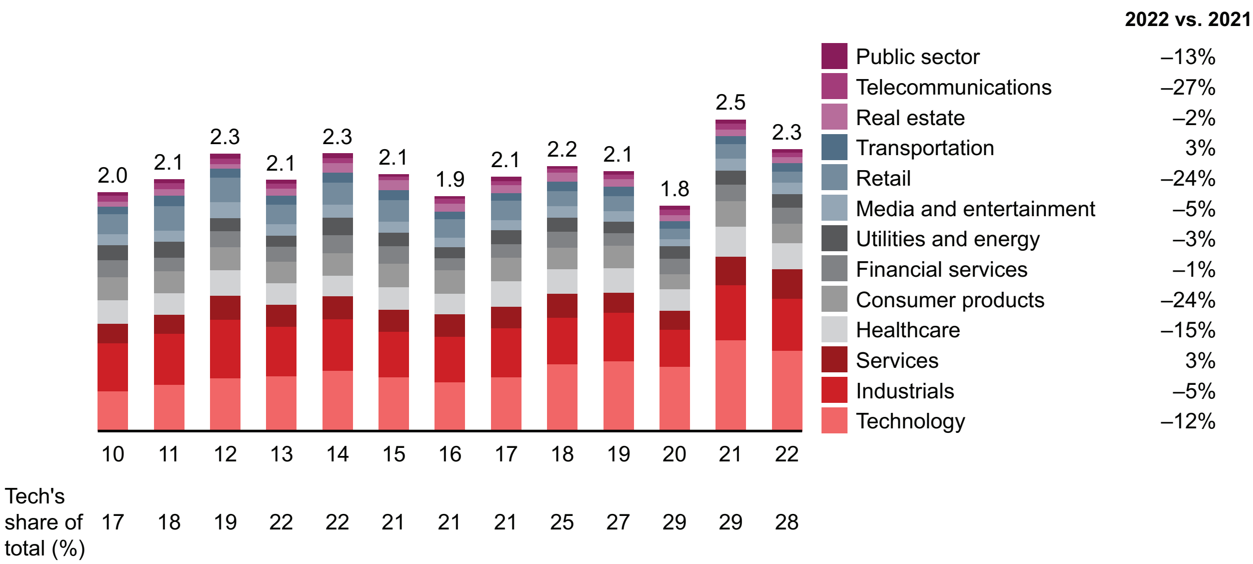
Figure 8: Buyouts continued to soar globally in early 2022, but momentum slowed substantially across regions in the second half



Notes: North America and Europe—excludes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change; geography based on target's location; Asia-Pacific—includes buyout, growth, early-stage, private investment in public equity, turnaround, and other deals; excludes real estate; excludes deals with announced value less than $10 million; includes investments that have closed and those at agreement-in-principle or definitive agreement stage
Sources: Dealogic; AVCJ; Bain analysis

Figure 9: Growth was down or muted across all sectors, although technology still accounted for almost 30% of all buyout deals globally

Global buyout deal count, by sector



Notes: Excludes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change
Source: Dealogic

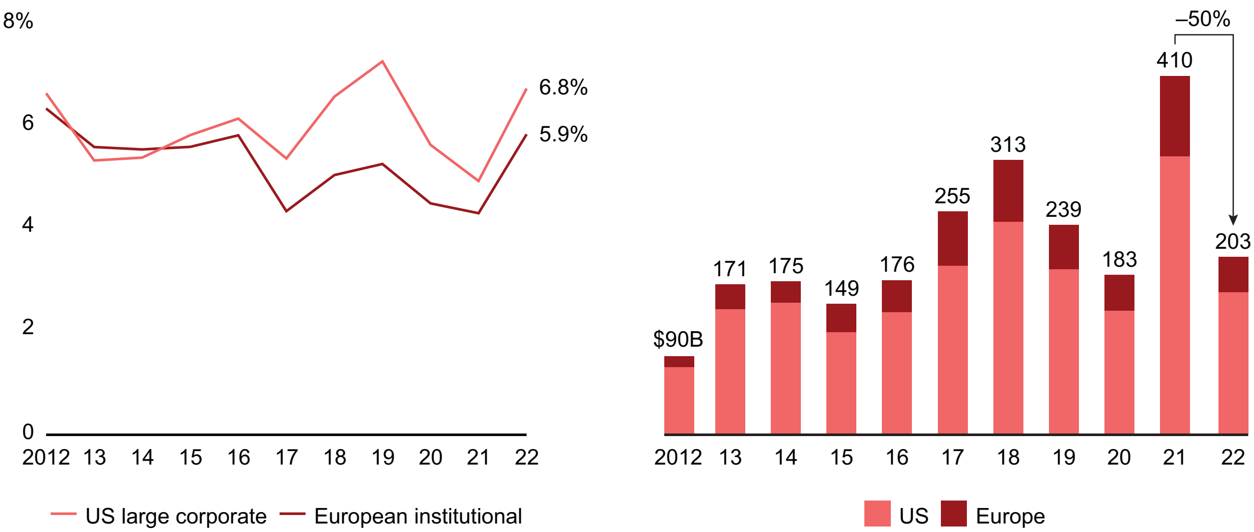
The banking industry's reluctance to lend to large leveraged transactions starting in midsummer dictated how the year in dealmaking ultimately unfolded. As yields rose sharply, the number of syndicated loans for leveraged buyouts dropped like a rock. Across the US and Europe, leveraged loans fell 50% to $203 billion as volume plummeted in the year's second half *(see Figure 10)*. The result was a decline in the sort of large, high-leverage transactions that have buoyed deal value for years. Average deal size fell 23% to $964 million after climbing steadily every year since 2014 to a record high in 2021 of $1.2 billion *(see Figure 11)*.

With the banks essentially closed for business, smaller transactions requiring less debt picked up share in the overall totals. GPs turned to direct lenders such as Sixth Street Partners and Ares Credit Group to finance 80% of all middle-market loans during the year *(see Figure 12)*.

The appeal and feasibility of smaller deals can be seen in the growth of add-ons, deals that are financed from the balance sheet of a portfolio company, usually to expand its footprint or add an adjacency. Add-ons made up 72% of all North American buyouts in 2022 by deal count, and a growing share of them were used to further buy-and-build strategies—multiple arbitrage plays where a GP buys smaller companies at lower multiples to build them into a larger one that will command a higher valuation *(see Figures 13 and 14)*.

Figure 10: As monetary policy tightened globally in 2022, banks pulled the plug on loans for large leveraged buyouts

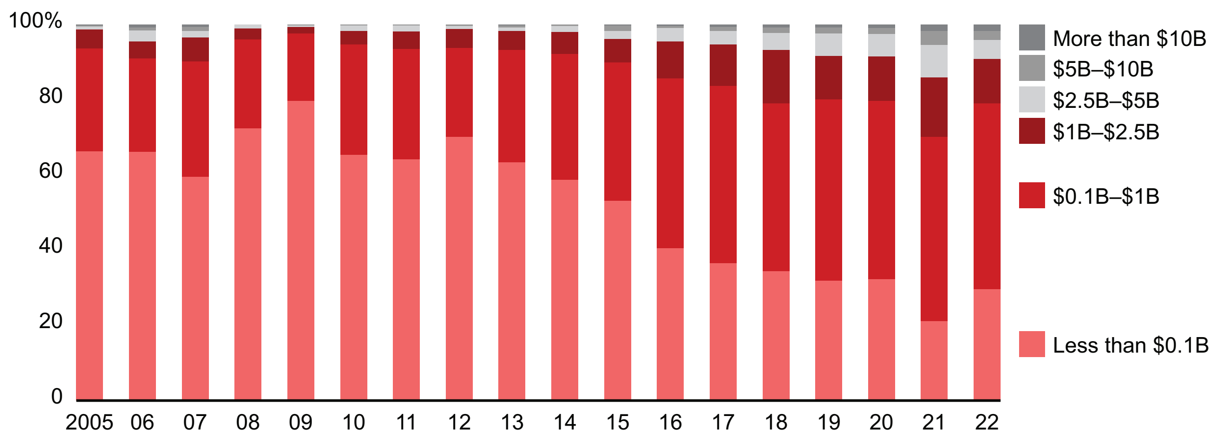
LBO yield | **Syndicated LBO loan issuance ($B)**



Notes: European institutional spread includes all tracked LBO deals, regardless of size; US large corporate defined as LBOs with more than $50 million in EBITDA; Europe syndicated loan volume converted to US dollars using EUR/USD conversion rate of 1.076
Source: LCD

Figure 11: Although average deal size remained high, the financing squeeze meant smaller deals gained share

Share of global buyout deal count, by deal size

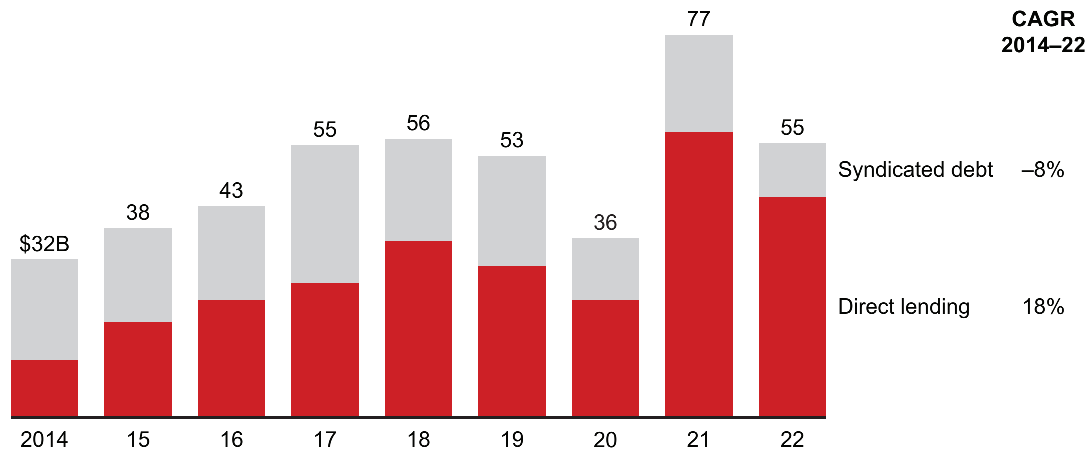


	2005	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
Avg. deal size ($M)	256	494	476	165	119	229	254	216	310	303	445	520	645	732	761	819	1,245	964

Notes: Includes deals with disclosed value only; excludes add-ons; excludes loan-to-own transactions and acquisitions of bankrupt assets; based on announcement date; includes announced deals that are completed or pending, with data subject to change
Sources: Dealogic; Bain analysis

Figure 12: Direct lenders provided 80% of the financing for middle-market buyouts in 2022

US middle-market LBO loan issuance, by debt type ($B)

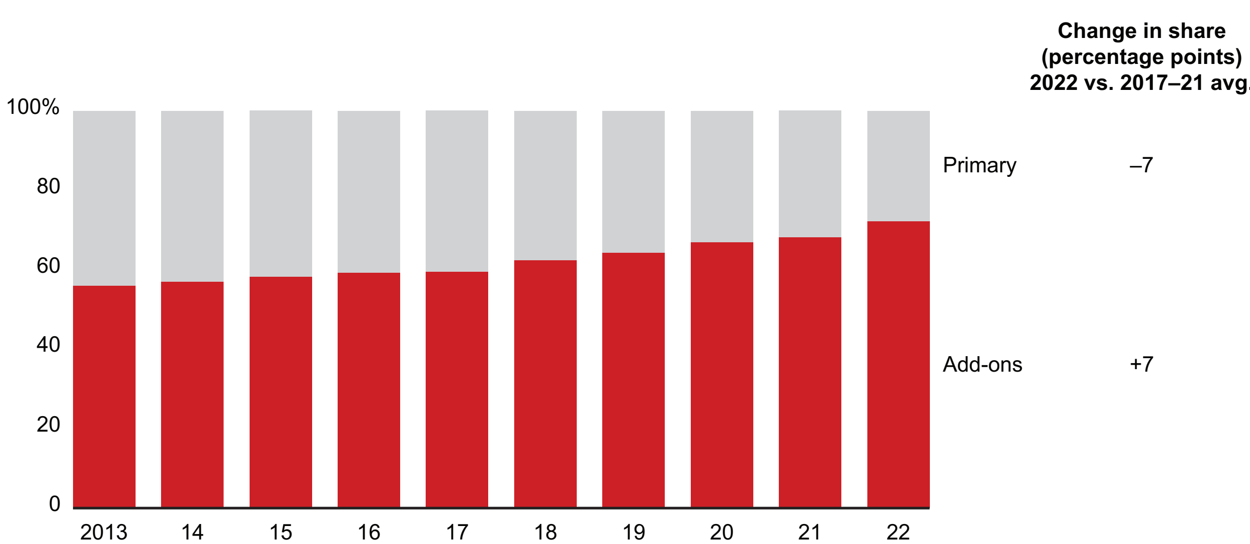


	2014	15	16	17	18	19	20	21	22
Direct lending's share of total (%)	36	51	56	49	63	58	66	75	80

Notes: Middle market includes issuers with revenue less than $500 million and total loan package less than $500 million; direct lending includes nonsyndicated facilities, including club lending
Source: Refinitiv

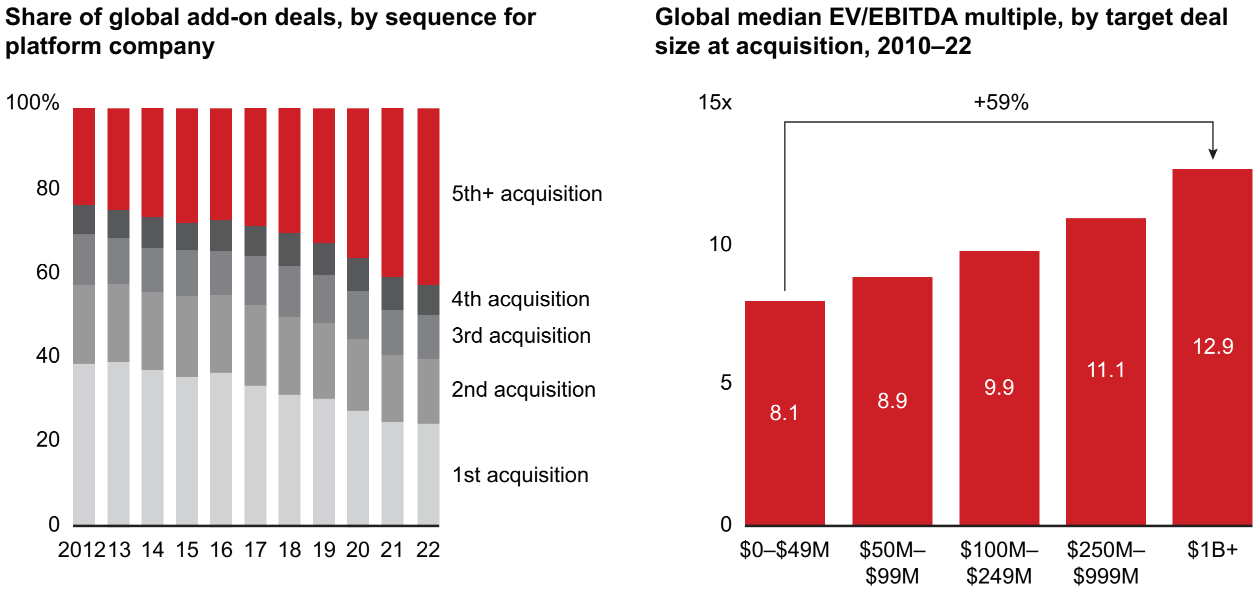
Figure 13: Add-ons continued to dominate deal count, making up 72% of all North American buyout transactions in 2022

Share of North American buyout deal count, by deal type



Notes: Primary deals defined as buyout acquisitions intended to stand alone or serve as a platform for add-on acquisitions; deal count includes completed deals that have at least one equity investor listed as an acquirer
Sources: SPS by Bain & Company; Bain analysis

Figure 14: Add-ons increasingly serve buy-and-build strategies as dealmakers create large, high-multiple platforms from small, lower-multiple acquisitions



Notes: Global add-on deals—sequence represents the year in which add-on was acquired; Multiples—includes buyout deals only with investment date between January 1, 2010, and December 15, 2022; includes fully realized, partially realized, and not realized deals; low number of $1 billion-plus deals limits year-over-year comparison of largest deals; deal size ranges based on equity check size
Sources: PitchBook; DealEdge powered by CEPRES data

While GPs have gravitated to add-on and buy-and-build strategies in ever greater numbers, it remains to be seen whether these moves will pan out for all of them. In our experience in over 30 years of doing coinvestment deals, buyers tend to underestimate the due diligence and integration challenges. The commercial logic of rolling up small companies in a fragmented industry is no doubt compelling. Yet it is critical to be rigorous about how the pieces fit together.

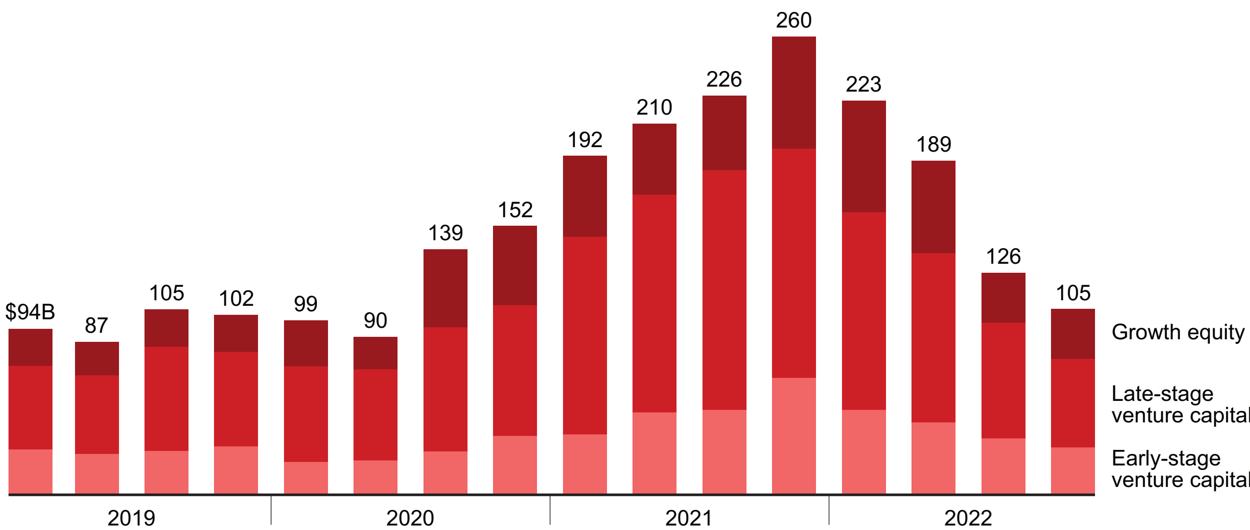
The GPs and portfolio companies getting it right start every acquisition process with a clear, testable thesis for how the deal will make the platform company more valuable over time. They're also careful not to let the commercial appeal obscure issues like organizational and cultural fit. Identifying synergies is essential, but so is defining how and when they will be achieved and how much risk there is that the savings might not materialize. Mitigating that risk involves drawing up a detailed integration plan to bring execution risks to the surface early.

Growth on pause. A year ago, the growth equity and late-stage venture segments were on fire. But, like buyout, these funds saw a large decline in activity in the second half of 2022. Overall, deal value dropped 28% to a rounded $644 billion *(see Figure 15)*.

Growth deals don't rely as much on bank debt as buyouts do. But growth and venture funds faced a number of their own challenges. The first is math: Rising interest rates reduce the value of future

Figure 15: Growth and late-stage venture investing also dropped significantly in 2022's second half

Global capital invested, by investment stage, quarterly ($B)



Notes: Late-stage venture capital defined as financing by a VC firm in Series B through Series Z+ rounds and/or more than five years after the company's founding date; growth equity defined as a noncontrol, equity investment by a PE firm into a company, with cash received by the company
Source: PitchBook

earnings, which has a disproportionate effect on the value of fast-growing companies for which the expected cash flow bonanza is somewhere in the future.

This math challenge was exacerbated by a second factor: investor recalibration. Much of the technology segment's momentum in 2021 and early 2022 stemmed from a Covid effect—the notion that demand within areas like e-commerce, work-from-home, and cybersecurity had been pulled forward, accelerating the penetration curves of many companies. As the pandemic waned, these predictions often began to appear overly optimistic, especially in a world where the cheap capital being used to inflect growth was going away. That and growing concern about an economic downturn chipped away at animal spirits.

A third factor has been GP conservatism. As the availability of fresh growth capital suddenly became suspect, many GPs have asked management teams to ease off the throttle—even if just a bit—to conserve precious cash. That's a recipe for more resilient balance sheets, but, like the other factors, it called into question future growth prospects, eroding valuations that relied on those expectations. The end result was fewer companies taking on new funding at attractive multiples.

Lower valuations have put growth and venture funds in a holding pattern. Not only have the companies they acquired in recent years come down in value, making buyers and sellers reluctant to transact, but the IPO markets are virtually shut down, dramatically slowing the growth of the market's favorite exit channel. Deal activity is unlikely to recover until valuations return to previous levels or enough time passes that assets are able to grow into their earlier valuations by generating higher earnings at lower multiples.

What's clear is that the falloff in deal activity across alternative asset classes has done nothing to help the industry whittle away at its mountain of unspent capital. Dry powder continued its decade-long growth streak and rose to a new record of $3.7 trillion in 2022 *(see Figure 16)*. Buyout dry power finished 2022 at $1.1 trillion. Growth fund dry powder was just under $350 billion.

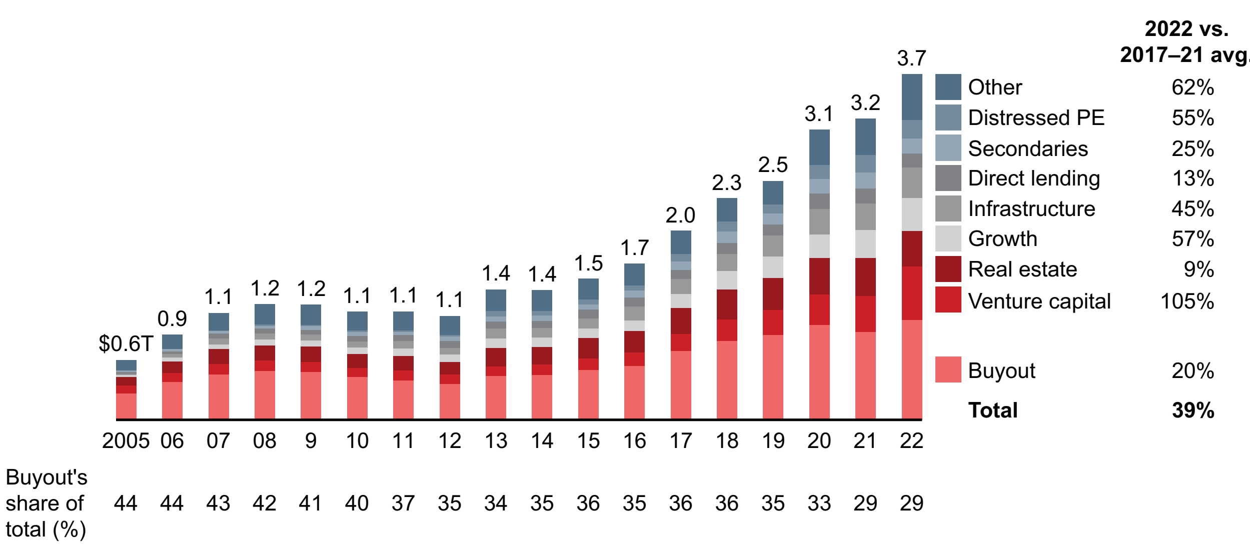
Although growth valuations have been moving lower, buyout multiples, at least in the US, have held steady *(see Figure 17)*. Taking a cue from Europe, they are starting to ease off in the current environment, but several factors are giving US multiples more support than the deal numbers would suggest.

First, because dry powder is so plentiful, any high-quality deal remains competitive. A full 65% of North American buyouts in 2022 attracted multiple bidders or involved a formal auction process. Second, owners in this environment are only offering up companies that will command a premium.

For their part, buyers are still willing to pay up for a deal if they have real conviction. We're seeing more transactions financed with 70% equity and 30% debt instead of the usual 50-50 structure.

Figure 16: Global dry powder has been stacking up for almost a decade and set another record in 2022

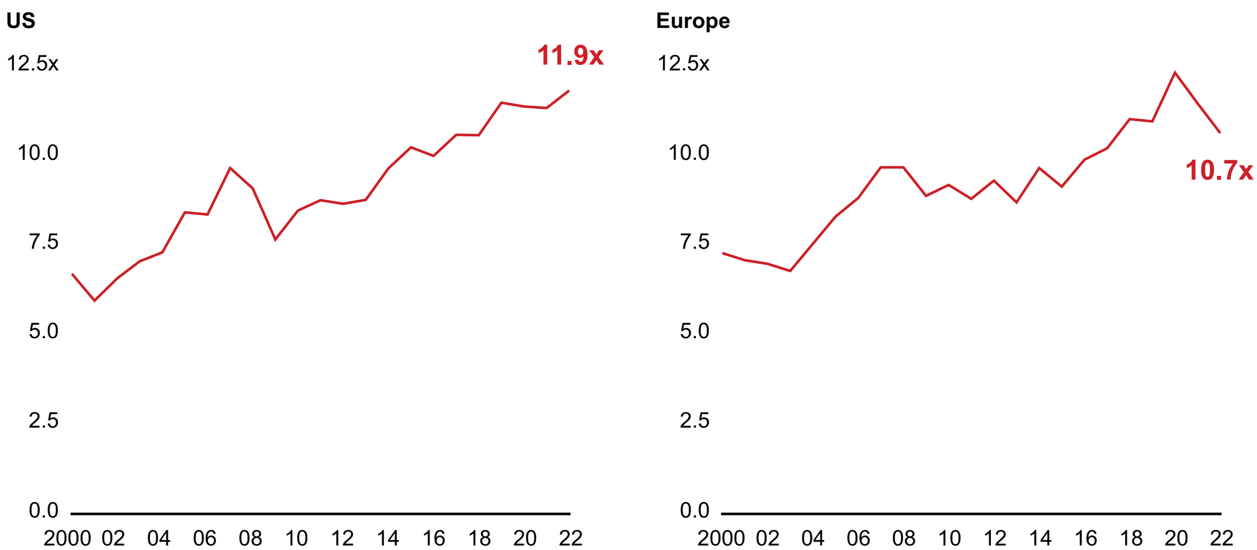
Global private capital dry powder, by fund type ($T)



Notes: Buyout category includes balanced, coinvestment, and coinvestment multimanager funds; other category includes fund-of-funds, mezzanine, and hybrid; discrepancies in bar heights displaying the same value are due to rounding
Source: Preqin

Figure 17: Hot competition for scarce deals put upward pressure on average US multiples, though European multiples fell off

Average EBITDA purchase price multiple for leveraged buyout transactions



Source: LCD

Funding that debt can be expensive, but to get quality deals done, GPs are kicking these debt issues down the road, confident that, when the conditions improve, they can restructure. As we discuss elsewhere in this report, the logic of present value suggests that multiples aren't likely to remain this high over the long term if interest rates continue to climb. As they trend downward, it will pay to be ready to pounce.

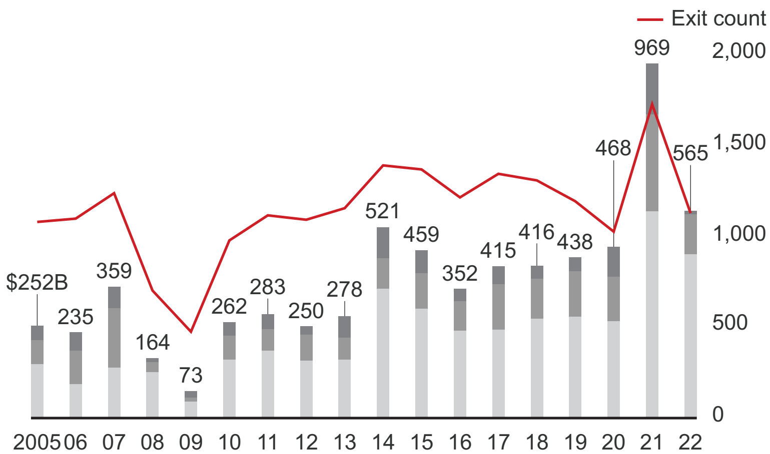
Exits

If investments fell precipitously in the second half of 2022, exits fell even harder. With every channel in decline, buyout-backed exits dropped 42% to $565 billion and showed weakness in regions across the globe *(see Figures 18 and 19)*. Growth equity exits, meanwhile, plummeted by 64% to $312 billion *(see Figure 20)*.

Amid the sharp declines in public equities, the IPO market shut down almost completely in 2022, which was especially hard on the growth equity segment. Sponsor-to-sponsor deals dropped by 58% as lenders cut off financing for big transactions and PE buyers shied away from the still-high asking prices coming from other firms. Sales to strategic buyers were higher than the five-year average, largely because corporate earnings proved to be relatively resilient throughout the year. But as macro uncertainty cast a gloom over the market in the second half, the strategic channel slowed and finished down 21% from 2021.

Figure 18: Exits fell sharply in 2022 across channels, especially in the market for initial public offerings

Global buyout-backed exit value, by channel ($B)

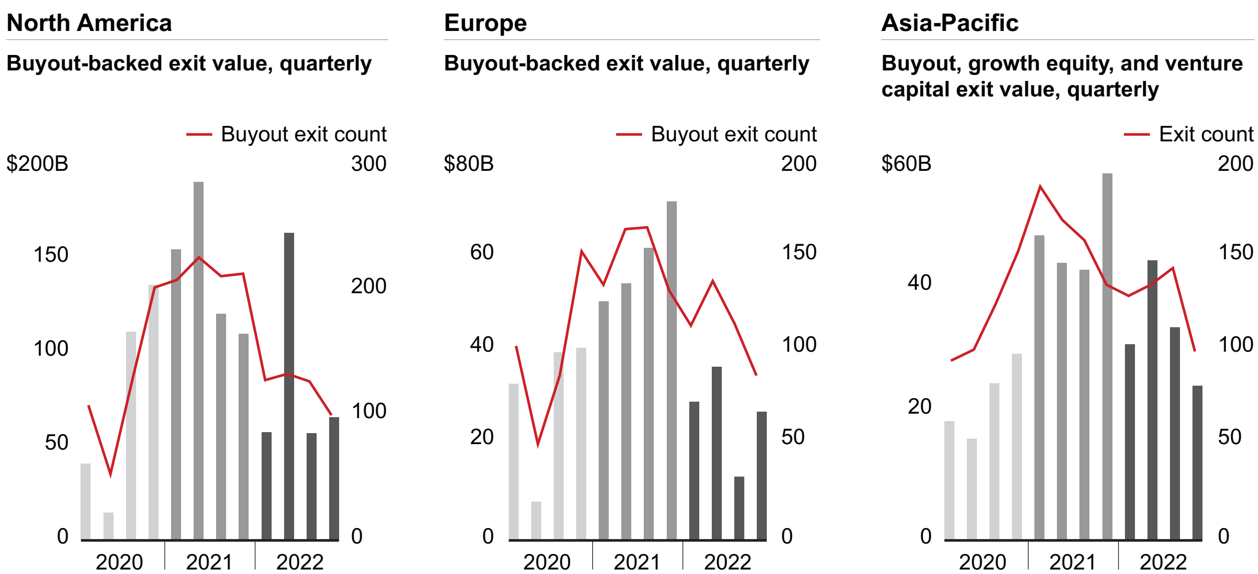


	2005	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22
IPO share of exit value (%)	15	22	16	6	23	14	14	9	21	16	13	9	12	8	8	17	14	1

	Change in exit value: 2022 vs. 2021	Change in exit value: 2022 vs. 2017–21 avg.
IPO	–94%	–88%
Sponsor to sponsor	–58%	–26%
Sponsor to strategic	–21%	38%
Total	**–42%**	**4%**

Notes: Includes partial and full exits, bankruptcies excluded; IPO value represents offer amount and not market value of company
Source: Dealogic

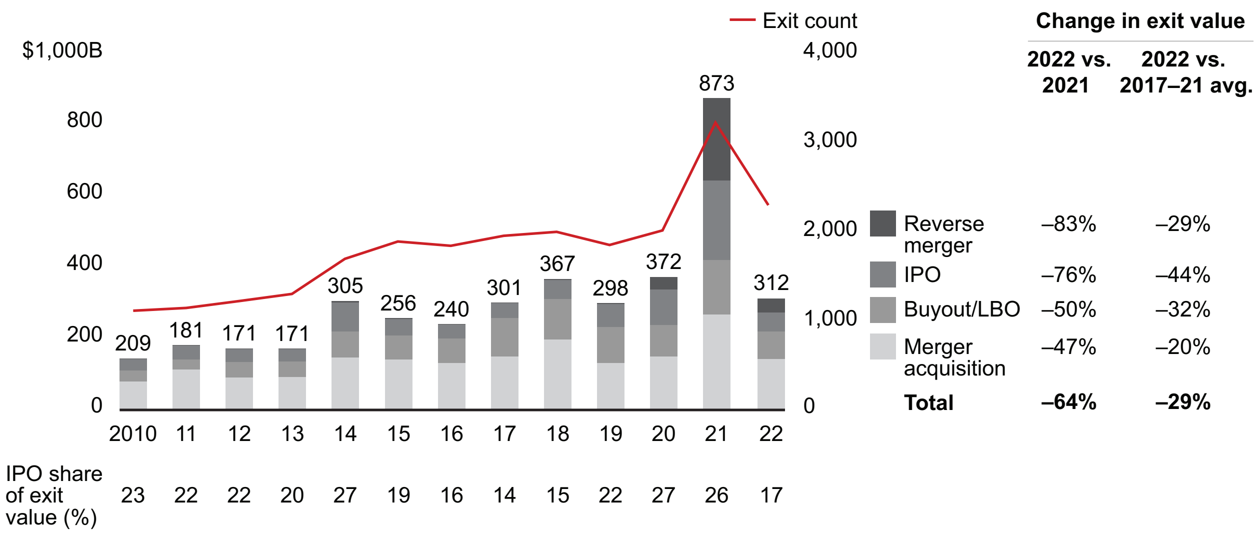
Figure 19: The exit slowdown extended globally across the major regions



Notes: North America and Europe—includes partial and full exits, bankruptcies excluded; IPO value represents offer amount and not market value of company; average exit size calculated using exits with disclosed value only; Asia-Pacific—includes buyout, growth, early-stage, private investment in public equity, turnaround, and other deals; excludes real estate; excludes deals with announced value less than $10 million; includes investments that have closed and those at agreement-in-principle or definitive agreement stage
Sources: Dealogic; AVCJ; Bain analysis

Figure 20: Growth and venture exits also fell precipitously as the IPO window slammed shut

Growth equity and venture capital exit value, by exit type



Notes: Includes deals with a growth equity round prior to exit; includes PE-backed growth equity and VC-backed growth/expansion, venture growth, and late-stage VC; excludes investor buyout by management and merger of equals; majority of reverse mergers are SPAC-related transactions
Source: PitchBook

Some of the slowdown in 2022 can probably be attributed to GPs pulling exits forward into 2021 to take advantage of surging deal activity and multiples. But faced with less-than-favorable market conditions in 2022, many GPs were simply unwilling to part with promising assets that were coming under short-term pressure.

A good example is a fund that invests in companies that are particularly reliant on human capital. With labor costs on an inflationary spiral upward, margins across the portfolio were compressed by about 300 basis points. That meant fund managers were going to have to play catch-up—raising prices, boosting revenue, or taking market share to get EBITDA back to where they had projected it would be in the deal model. All of that would take time.

They did consider whether to sell some companies on the original time clock and take the hit on returns. But it made more sense to get with LPs and agree to delay those exits until conditions improved. That mindset is an important vestige of the last downturn. GPs say the mistakes they made after the global financial crisis can usually be traced to letting go of assets too quickly rather than doing what they could to hang on and ride out the storm. If it's a decent company, they found, it will recover and the fund will make a return.

Given this kind of thinking, it's likely that hold periods for exited companies will stretch in 2023 if the economy stalls out. That may protect returns over the longer term, but for now, extended hold periods will inevitably make it harder for LPs to fund new commitments from exit-driven liquidity. That means tools like GP-led secondaries and continuation funds will remain an important way for investors to find liquidity when they need it. But as with private markets generally, strong allocations to secondary funds in recent years are already limiting new commitments to these vehicles.

Fund-raising

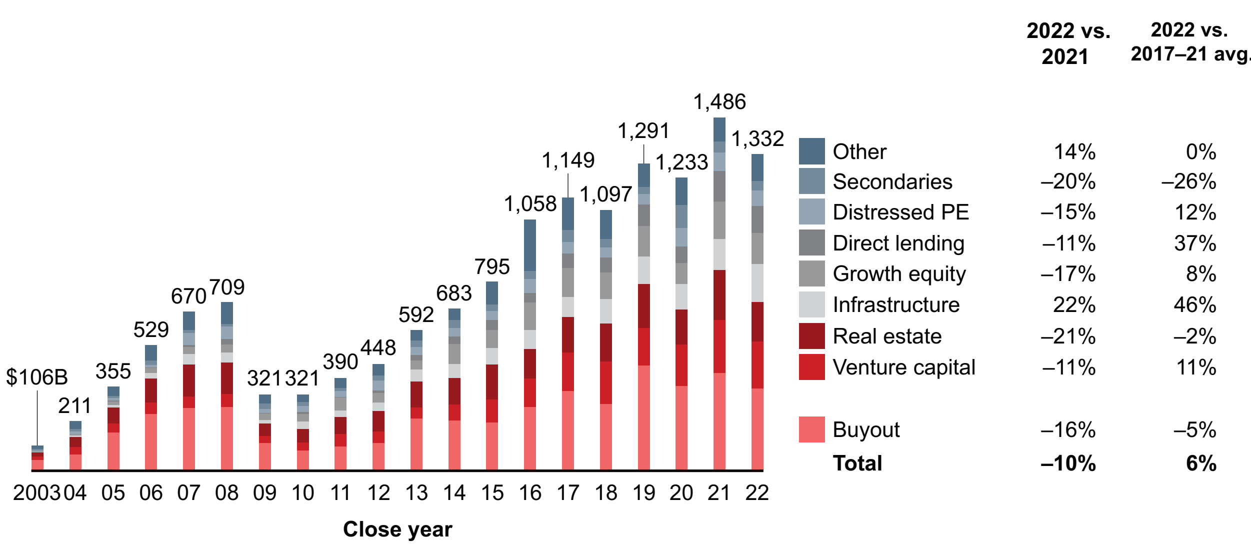
While the long-term outlook for fund-raising remains exceedingly bullish, the environment for attracting new capital in 2023 will be considerably less so. For a variety of reasons, LPs are tapped out, and the cash squeeze they are facing will make it difficult to ramp up commitments in the coming months.

Largely on the back of a strong-ish first half, alternative managers around the globe raised $1.3 trillion in private capital during 2022, down 10% from 2021 but still the second-highest total ever. That brought the five-year total to a staggering $6.4 trillion, dwarfing any five-year period in the industry's history *(see Figure 21)*.

The slowdown reflects a couple of dynamics. The total number of buyout funds closed in 2022 skidded 43% from 2021 as most firms found it increasingly difficult to raise new capital. The total value of buyout capital raised, however, dropped a less-onerous 16% because macro jitters forced LPs further into the arms of the largest, most experienced funds, which raised more money than ever *(see Figure 22)*.

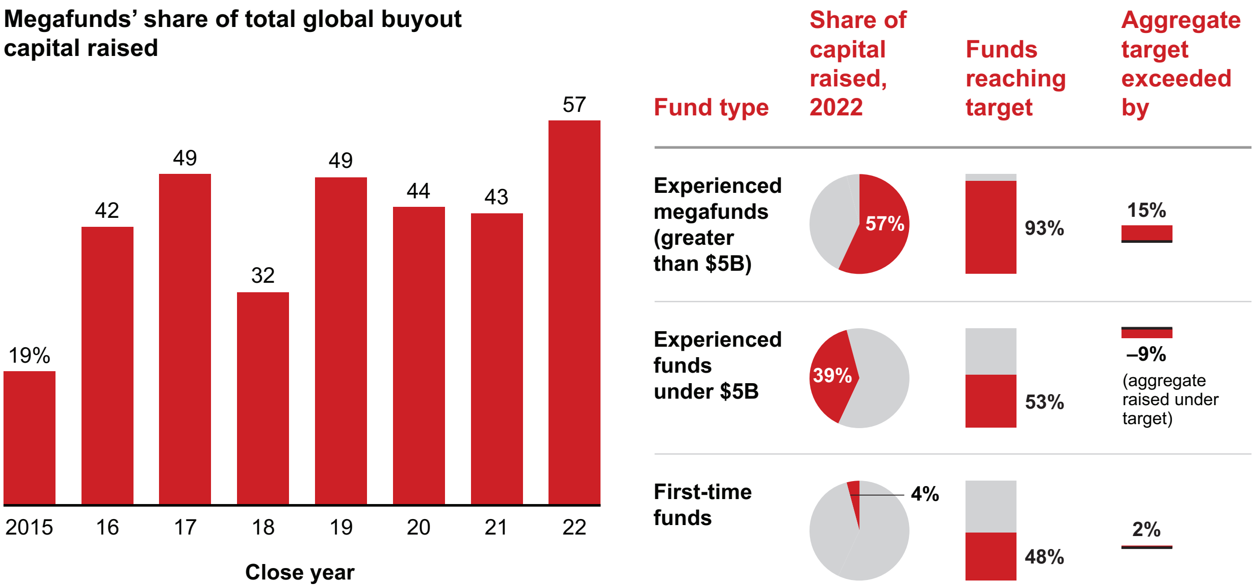
Figure 21: Global fund-raising reversed course in 2022, but the total raised was still the second highest ever

Global private capital raised, by fund type ($B)



Notes: Buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; includes closed funds only and represents the year in which funds held their final close; excludes SoftBank Vision Fund; excludes natural resources
Source: Preqin

Figure 22: Investors' long preference for large funds with established track records is unlikely to wane amid market uncertainty



Notes: Buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; analysis includes funds with GP experience data (fund number) and final close values; represents the year in which funds held their final close; excludes SoftBank Vision Fund; "funds reaching target" and "aggregate target exceeded by" calculations only include funds for which target and close size data is available
Sources: Preqin; Bain analysis

Activity slid across all major regions *(see Figure 23)*. Growth equity and real estate funds also had a significant drop-off. But infrastructure funds, which investors view as less cyclical, saw a 22% increase.

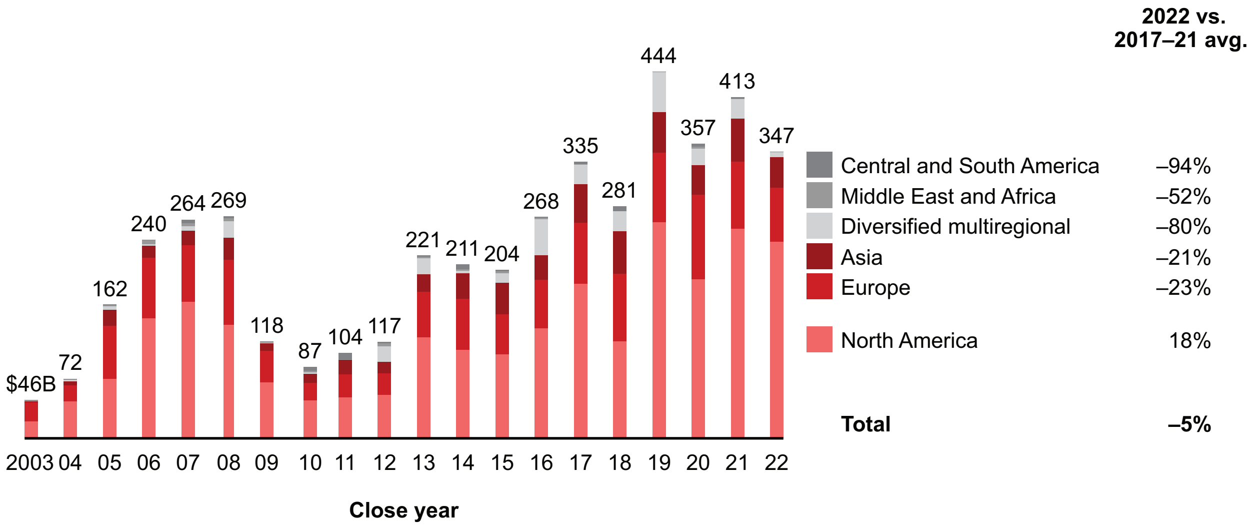
The pressure LPs are feeling has several components, most notably the unprecedented flood of capital devoted to private equity in recent years. Not only has the amount been monumental, but the velocity of commitment has been accelerating steadily. For buyout funds, the average period between successive funds (first to second generation, third to fourth, etc.) has dropped 35% over the last decade as GPs circle back every three years instead of five. They are also asking for more money each time—50% more in 2022 than for predecessor funds *(see Figure 24)*.

All of that was fine as long as GPs could recycle a steady amount of capital by maintaining high levels of distributed to paid-in capital (DPI). But as exits—and the outlook for exits—slowed sharply in 2022, GPs had to pare back distributions. LPs were already stretched, and the slowdown in DPI created new liquidity issues. That precluded making further commitments until cash flows improved.

Judging by the past downturn, LPs will likely see buyout funds hang onto many companies for an incremental year or two. But that's hard to gauge given that it's not even clear what the shape of a downturn would be. Add to all of these factors the "denominator effect," where declines in public equity valuations make the size of private equity allocations in LP portfolios look out of whack, and it is unlikely the pace of fund-raising will pick up any time soon.

Figure 23: Buyout fund-raising declined across all major regions, with the smallest falloff in North America

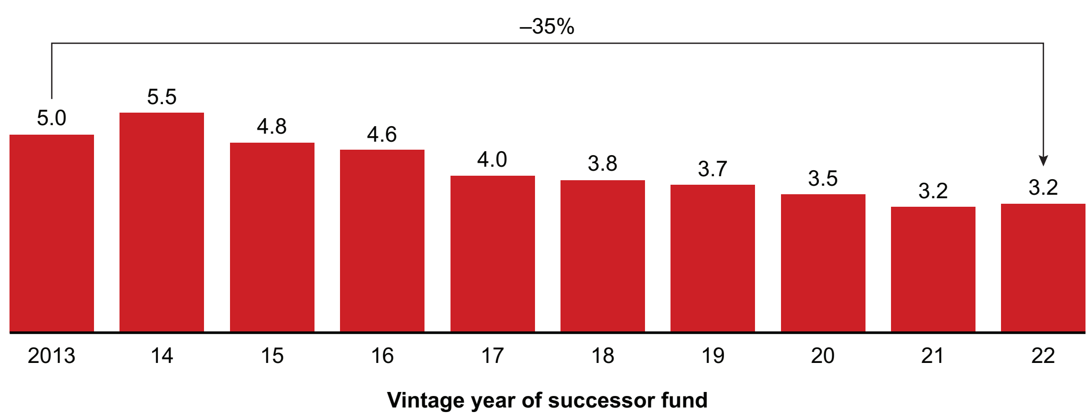
Buyout capital raised, by investment region focus ($B)



Notes: Buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; only includes funds with final close data; excludes SoftBank Vision Fund
Sources: Preqin; Bain analysis

Figure 24: Investment has accelerated over the past decade as general partners come back sooner and ask for more

Average years between predecessor and successor fund vintages, global buyout funds



Median increase in size from predecessor (%)	28	18	33	27	37	43	50	44	48	50

Notes: Series funds limited to those with successor funds categorized as buyout funds; buyout category includes buyout, balanced, coinvestment, and coinvestment multimanager funds; for funds with multiple series, time between series calculated for funds within the same series; vintage year defined as the first year of investment/drawdown from the investor
Source: Preqin

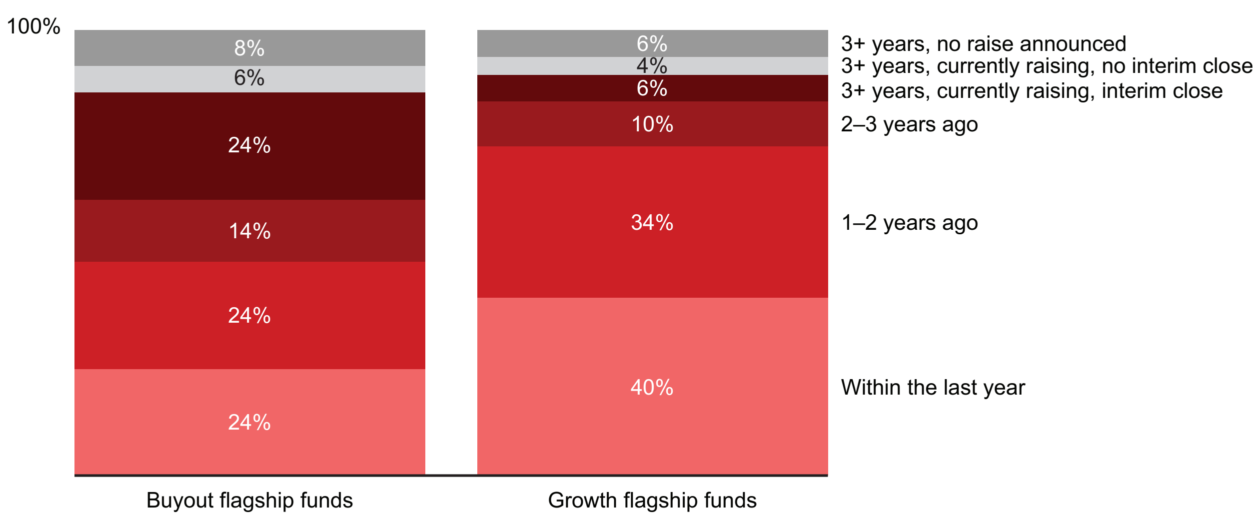
As in any downturn, the scarcity of capital will mean roughly a quarter of funds now in the market won't raise again. But for GPs generally, the pace and volume of fund-raising over the past several years has left funds flush with fresh capital: A full 86% of large buyout firms have closed a flagship fund or held an interim close over the past three years, and almost half have closed in the past two *(see Figure 25)*. Growth flagships are similarly flush.

Those that have raised recently can wait, earn fees, and choose their targets carefully as the economy works through this down cycle. LPs, too, have learned that extra patience is a virtue during these periods. Fund vintages invested in the year or two after a downturn have outperformed historically, generating strong distributions over time.

As LPs cut back, established funds at the top of the market will inevitably continue to claim the largest share of the reduced pie. The trend toward specialization and away from generalist funds is also sure to continue. The vehicles getting funded in this environment are those that can help LPs meet specific objectives through true expertise in a narrow slice of the market—not just software, say, but a clearly defined set of three software subsectors that sell only mission-critical applications to fast-growing service companies. Funds that can demonstrate they are the smartest player in a given space by finding high-quality deals and delivering them to investors are the ones standing out in a crowded field.

Figure 25: Most large firms have closed a flagship fund in the last three years, making it easier to weather a slowdown

Time since last close for flagship funds, top 50 global buyout and growth equity firms



Notes: Buyout category includes buyout and balanced funds and excludes coinvestment and coinvestment multimanager funds; analysis limited to flagship funds of top 50 buyout firms as defined by aggregate capital raised over the last 10 years; excludes single-deal funds, funds not designated as "funds in series" per Preqin, and/or funds missing close-date data
Sources: Preqin; Bain analysis

One thing is becoming ever more apparent: The long-term opportunity private equity presents may be bigger than the traditional sources of capital can support. That explains why the industry has been so assiduously expanding relationships with the massive sovereign wealth funds in capitals around the world and seeking to tap the legions of individual investors who control half of all wealth globally.

It's also clear that there are plenty of places to put the money. As technology continues to transform sectors like healthcare and finance; as innovation builds in areas like artificial intelligence, web3, and big data; and as the energy transition accelerates, the demand for private investment capital stands to grow exponentially over the next 20 years. The coming year will likely turn out to be a pause in the action, but private equity's long-term appeal to investors is secure.

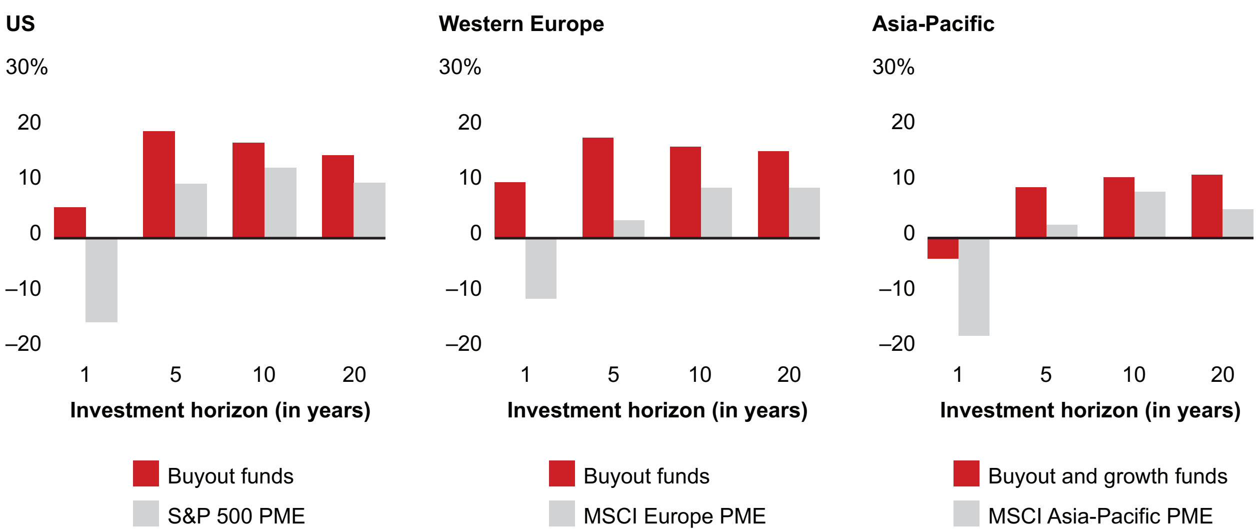
Returns

In the decade leading up to 2022, surging values of US public equities had closed the historical gap with private equity returns. But that trend ended abruptly last year when public markets tanked globally and private valuations held up—at least through the third quarter, the latest industrywide data available by the time of publication *(see Figure 26)*.

While the S&P 500 closed 2022 down 19% and the MSCI Europe Index finished the year with a 17% decline, valuations for the private equity holdings of the largest public alternative asset managers—

Figure 26: Historically, buyout funds have generated higher returns than public markets, especially in 2022 as public markets tanked

End-to-end pooled net IRR (as of Q3 2022) for …



Notes: Data for US and Asia-Pacific calculated in US dollars; data for Europe calculated in euros; public index comparison uses ICM IRR method, which assumes buying and selling the index according to the timing and size of cash flows between the investor and the private investment
Source: Burgiss

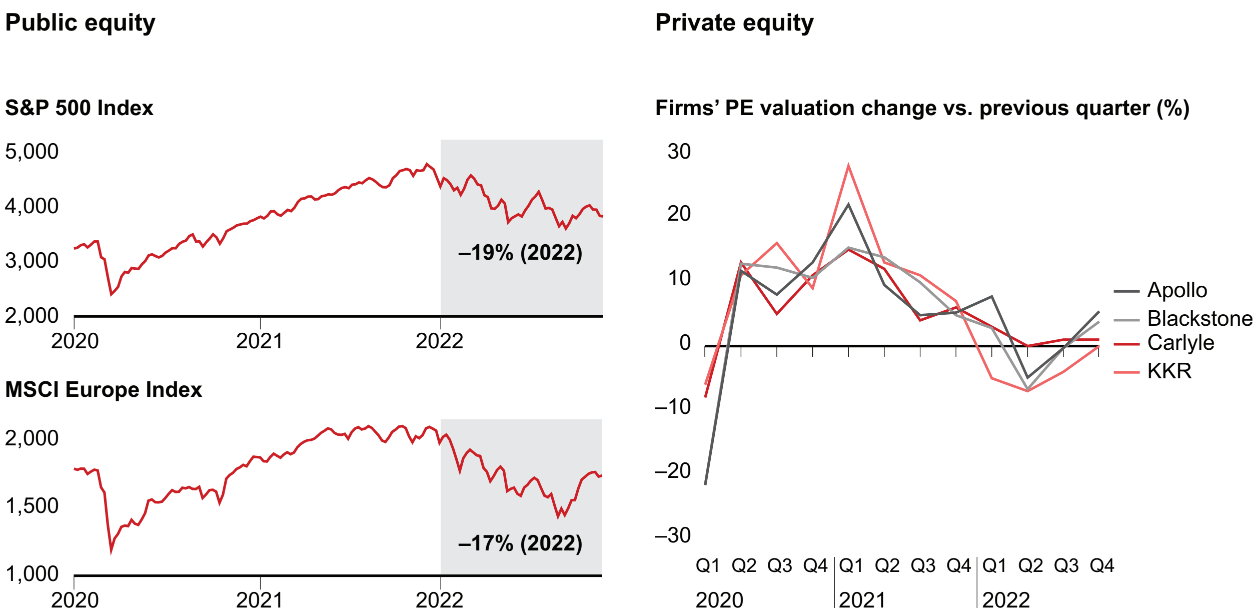
Blackstone, KKR, Apollo, and Carlyle—all held up better *(see Figure 27)*. In fact, two of the four posted gains over the year. Buyout funds more broadly posted some write-downs in the second and third quarters, but nothing to match the downturn in public equities.

The question these results raise is whether private equity valuations will follow the public markets south when fourth-quarter marks are eventually tallied this spring or later in the year if the economy tumbles into recession. Trend lines for public and private valuations have generally shadowed each other since the Financial Accounting Standards Board issued its 157 ruling in 2006. And that has set the expectation that bad news regarding the valuation of private holdings is only a matter of time. Many LPs are bracing for the worst. Those surveyed by Preqin in 2022 said overwhelmingly that private equity had met or exceeded their performance expectations during the year. But 60% were expecting performance to deteriorate in 2023 amid the signs of an economic slowdown *(see Figure 28)*.

It's true that the fourth quarter is typically when the most pronounced adjustments to portfolio company valuations occur. There is one audited appraisal required annually, and that typically happens as funds wrap up their year. These should be the most reliable estimations of value that investors see in any 12-month period.

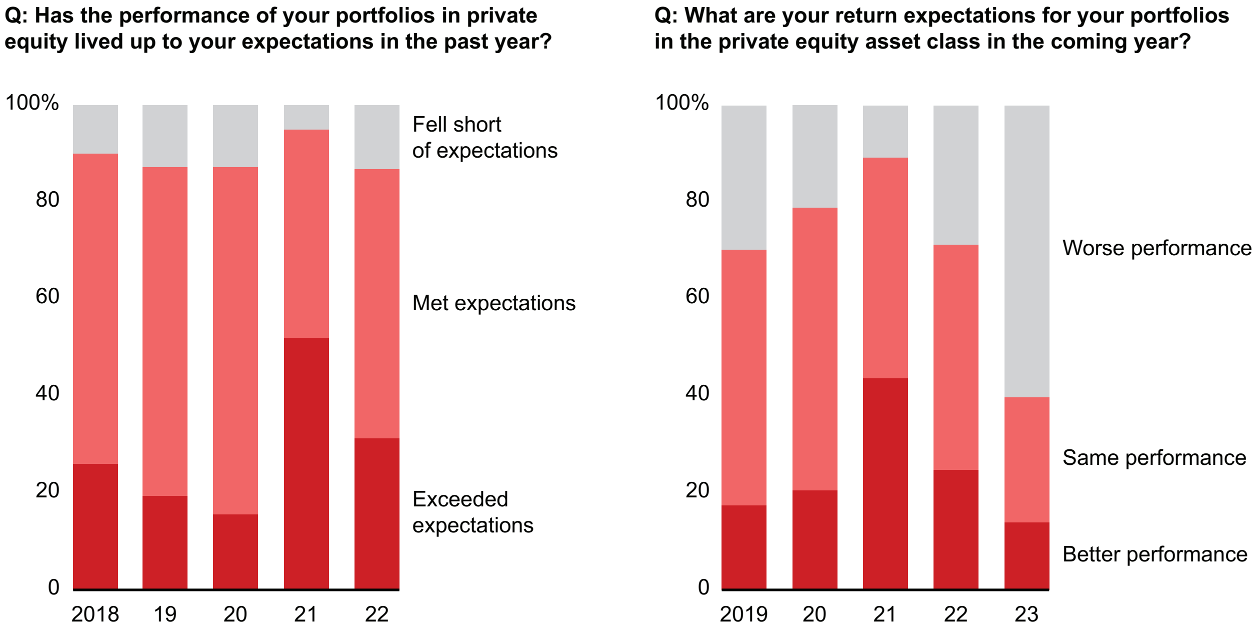
Data from Burgiss, a private capital data and analytics provider, confirms that if changes are on the way, they are most likely to show up in the fourth quarter. But the analysis also shows that the magnitude

Figure 27: The dramatic slide in public markets during 2022 was not echoed in private equity markets through the third quarter



Notes: S&P 500 and MSCI Europe indexes are average weekly close values; Carlyle based on corporate private equity carry fund appreciation; KKR based on private equity flagship funds gross returns; Apollo and Blackstone based on PE fund appreciation
Sources: Refinitiv; company websites (most recent quarterly earnings call presentations and transcripts, as of November 8, 2022)

Figure 28: Private equity returns met LP expectations in 2022, but 60% expected worse performance in 2023



Source: Preqin investor interviews (December 2018–22)

of change is typically not that dramatic. Close to 60% of the time over the past decade, the fourth-quarter adjustment has been less than 10% one way or the other *(see Figure 29)*. Change greater than 20% occurs only 21% of the time.

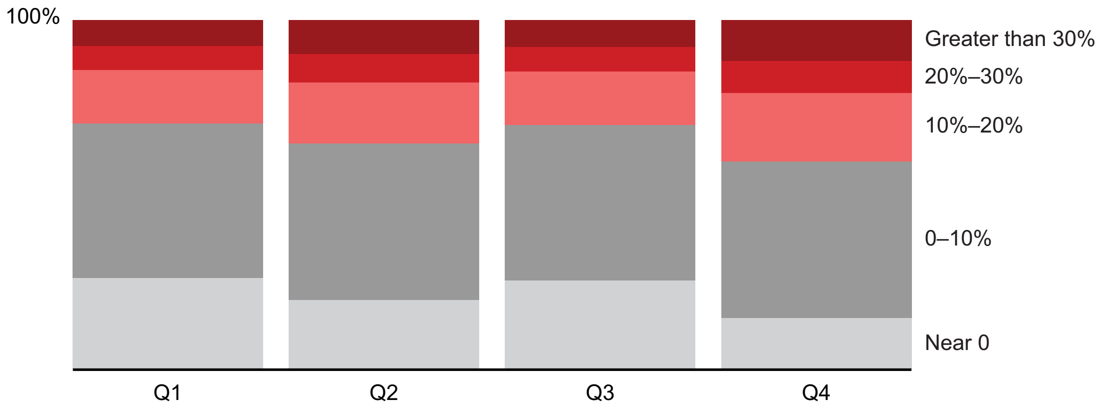
Burgiss analysis also calls into question the notion that 2022 represents a sudden break in the historical relationship between public and private valuations. In fact, a gap may have been developing for years. If you chart quarterly changes in buyout fund valuations against movement in public indexes (indexing them to the fourth quarter of 2019, right before Covid-19 hit), a divergence shows up right away. Private valuations over that period, especially for hot sectors like healthcare and technology, have consistently outpaced those set by public markets in the US and Europe *(see Figure 30)*.

The conclusion one might draw from this data is that GPs are simply overvaluing their assets. But, if anything, new analysis shows that GPs skew toward the conservative. Over the past decade, buyout funds have exited assets at valuations exceeding their last quarterly mark nearly 70% of the time *(see Figure 31)*. If fund managers err, in other words, it is on the side of promising less and delivering more, not the other way around.

Of course, fourth-quarter marks may yet bear out industry concerns. But it's just as plausible that private equity performance may continue to hold up better than expected—especially given the Q4 performance we've seen from the large public firms.

Figure 29: Buyout valuations shift most significantly in the fourth quarter, which is typically when annual audits happen

Percentage of buyout-backed portfolio holdings, by magnitude of quarterly valuation change (2012–Q3 22)

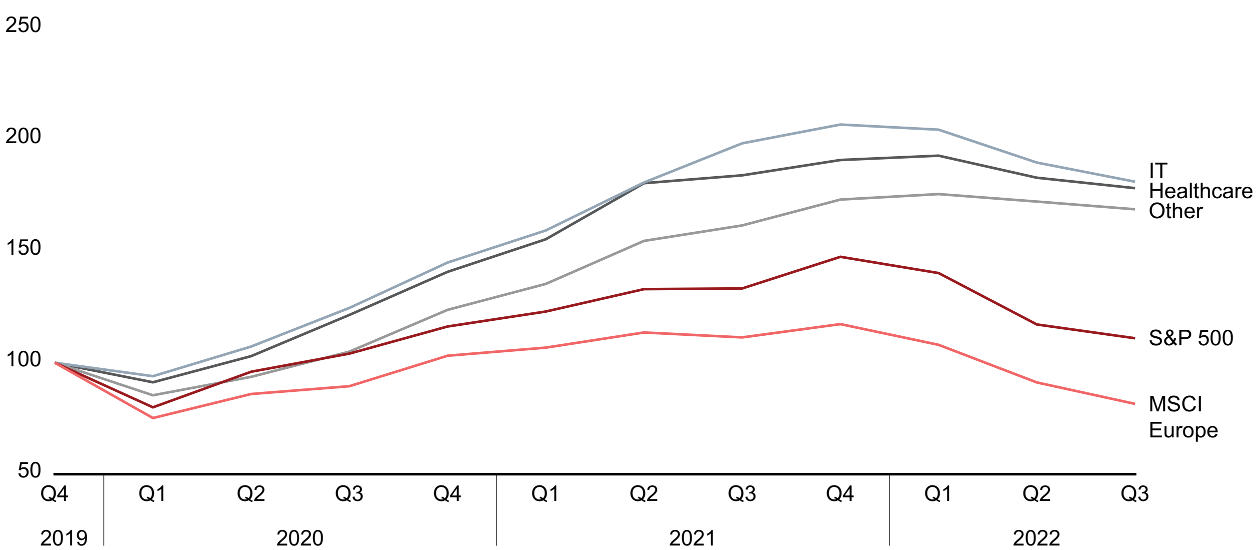


	Q1	Q2	Q3	Q4
Share of holdings with near-zero quarterly valuation change (%)	26	20	26	15

Notes: Only includes holdings that are at least 5% of respective fund size at the beginning of each quarter; includes all quarters from Q1 2012 through Q3 2022; near 0 category includes holdings with quarterly valuation change less than 0.05%; 0–10% category includes holdings with quarterly valuation change greater than 0.05% but less than 10%
Source: Burgiss

Figure 30: Buyout valuations accelerated after Covid-19 appeared and have proven more resilient than public markets in recent quarters

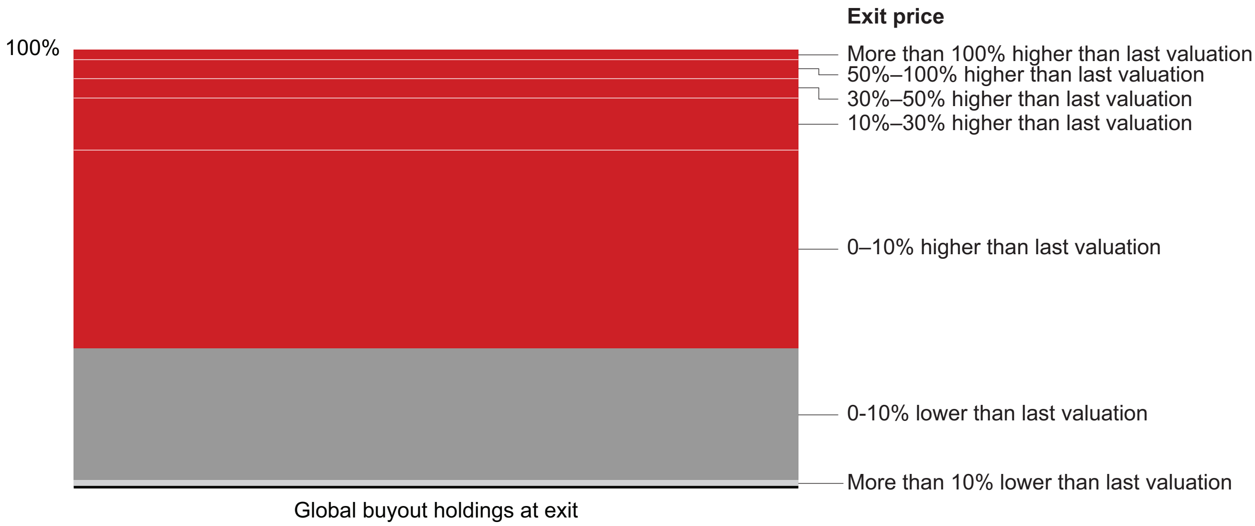
Indexed valuation based on pooled return, global buyout-backed holdings (Q4 2019=100)



Source: Burgiss

Figure 31: GP marks have tended to be conservative, with around 70% of holdings exited at a higher valuation than the last quarterly mark

Percentage of global buyout-backed portfolio holdings at exit, by count (2012–Q3 22)



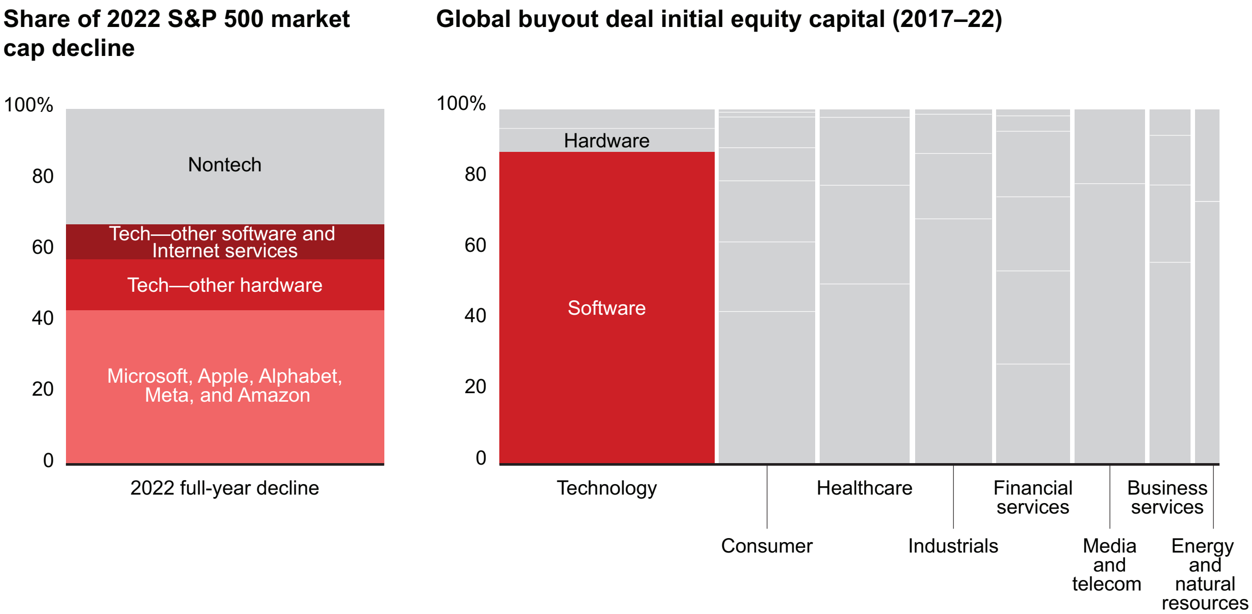
Notes: Sample includes holdings that exited at least 75% during the quarter; only includes holdings that are at least 5% of respective fund size at the beginning of each quarter
Source: Burgiss

One important reason for optimism is the composition of private equity portfolios *(see Figure 32)*. More than two-thirds of the 2022 decline in public equities was attributable to the plunging values of tech-related stocks, most notably Microsoft, Apple, Alphabet, Meta, and Amazon, which together lost 43% in 2022. Private portfolios are also heavily invested in the technology sector, but it is a different kind of tech.

A full 88% of the technology investments in buyout funds are software, which is significantly less volatile. These are mostly mature SaaS enterprise businesses with stable cash flows. They tend to be more resilient in a downturn because their products are "sticky"—either mission critical or deeply embedded in a company's operations. Private portfolios are also balanced by healthcare companies, which tend to hold up well in a recession.

This period will test whether private equity's experience weathering the global financial crisis has taught fund managers the value of constructing portfolios that are resilient in a downturn. It will also challenge them to maintain superior returns without relying on the multiple expansion that has carried the industry for years. As the full impact of inflation and rising interest rates unfolds across the global economy, the coming months and years will likely see downward pressure on multiples. The top-tier firms will be those that can generate alpha from the inside out with value-creation strategies that boost margins and spur revenue growth.

Figure 32: While technology-related companies drove the public market decline, "tech" in private portfolios means software, which is more resilient



Notes: Buyout deal initial equity capital excludes real estate and Infrastructure deals; Nasdaq:CEG not included in nontech market cap totals due to IPO during 2022
Sources: S&P Capital IQ; DealEdge powered by CEPRES data; Bain analysis

What remains clear, however, is that the industry overall is well positioned for long-term growth and prosperity. Despite the recent drop-off in deal, exit, and fund-raising activity, 2022 was still the second-best year in history, and the underlying fundamentals remain sound. This slowdown and the macro factors contributing to it will present real challenges. But, unlike the 2007–08 period, when the global banking system nearly collapsed, nothing appears fundamentally broken this time around. While all signs point to a shift in the economic tide, the magnitude will be nothing the private equity industry hasn't dealt with before.

A Private Equity Lens on the Energy Transition

The global shift away from carbon-based fuels is gaining momentum. Here's what it means for private investors.

By Debra McCoy, Marc Lino, Deike Diers, David Hoverman, Grant Dougans, and Charlotte Mabe

The pressure on private equity firms to decarbonize their portfolios only increased in 2022.

Regulators, consumers, B2B customers, and investors all stepped up calls for change, meaning the risks and opportunities within portfolios have become critical focus areas for fund managers.

At the same time, the race to develop new alternative energy sources and other low-carbon solutions is shaping up to be a generational opportunity to put money to work. Companies supplying the technology, products, and services that will drive the shift away from carbon stretch across the global economy. They will need trillions in new capital as the world strives to ward off the worst of climate change.

While ambiguity around regulation, the pace of change, regional politics, and other issues will continue, general partners (GPs) cannot let uncertainty deter action. The firms getting ahead of the pack recognize that managing through the energy transition involves a dual imperative to play offense and defense. There are opportunities to win on both sides of the ball.

Investing in the transition

It's easy enough to say the energy transition is opening up investment opportunities. But making sense of the evolving landscape is a challenge for any fund.

The energy transition sprawls across every sector of the economy and is as much an industrial challenge as a technological one. There are massive practical hurdles in taking such a large swath of the global economy from A to B, along with deep uncertainty about business models that are heavily reliant on government subsidies and other factors outside investors' control. The pace and direction of change can vary across geographies and at the micro level. Politics is all too frequently a disruptive factor.

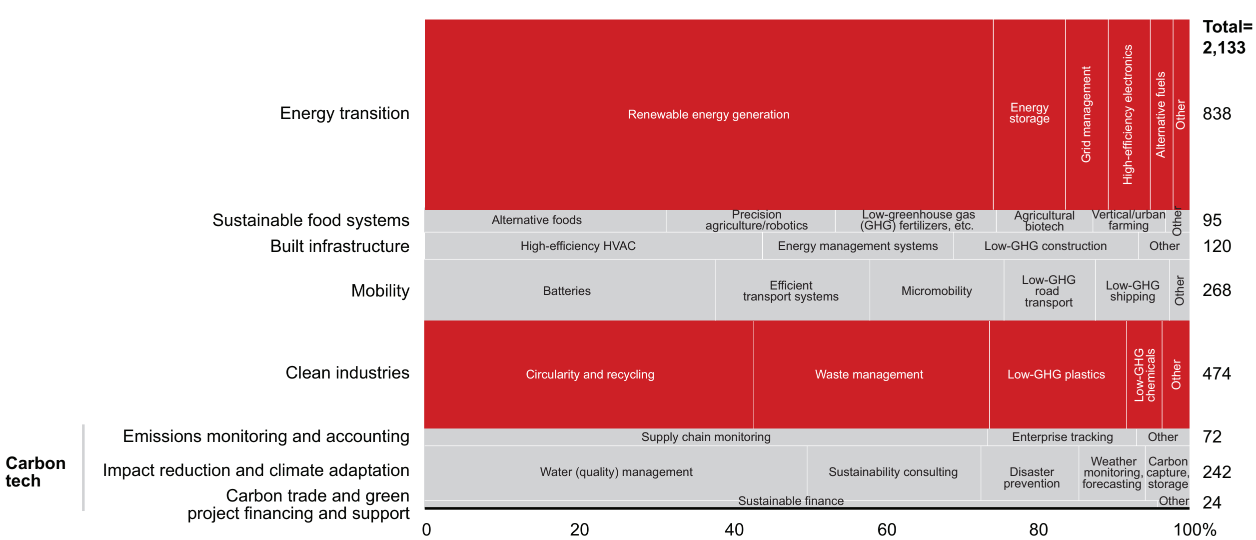
Yet investors are finding the energy transition space increasingly attractive. Between 2017 and the first half of 2022, according to PitchBook, buyout and growth equity funds had done energy transition–related deals with a total reported value of around $160 billion, the majority of it concentrated in the renewables and clean industries segments *(see Figure 1)*.

The funds finding their way to the most attractive deals aren't simply trying to increase broad exposure to the energy transition. They are investing with a clear strategy carefully calibrated to take advantage of their unique approach to creating value. Investment approaches can vary considerably based on both tactics and risk. But that means investors can dial in where they want to play based on a firm's mandate, expertise, and capabilities *(see Figure 2)*.

One practical way to think about risk in this space is to focus less on picking winners in these highly dynamic markets and more on finding the companies that are supplying data and tools to all competitors. The world will need innovation in battery and storage technology, for instance, no matter who wins between Tesla and GM in the electric vehicle market. Similarly, as companies face increasing demands

Figure 1: Private equity has focused its investments in the energy transition and clean industries segments, but carbon tech is gaining momentum

Climate-related target count by sector, 2017–H2 2022



Notes: Represents companies that transacted in a leveraged buyout, add-on, or recap deal between 2017 and H2 2022 with an estimated enterprise value of at least $50 million and less than $750 million at the time of the deal; target count includes companies that are now publicly traded or owned by a strategic buyer
Sources: Dealogic; PitchBook; SPS; Bain analysis

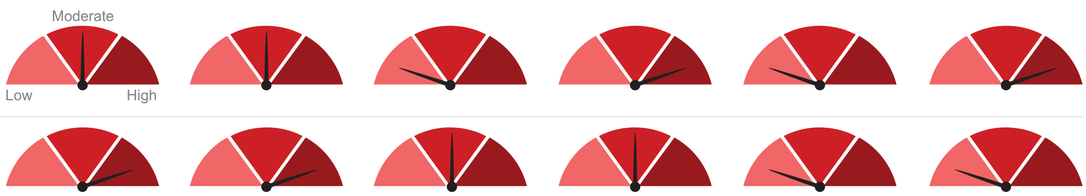
Figure 2: The right investment play depends on a fund's appetite for risk and capital intensity, as well as its value-creation focus

Asset class

Investment play	**Gray-to-green transformation:** Mature assets shifting operations to reduce emissions	**Green energy operators:** Businesses directly focused on clean-tech/sustainability, with proven technology	**Picks and shovels:** Businesses offering proven products that enable the energy transition	**Technology of the future:** Big bets on promising technologies with scientific and/or commercial uncertainty	**Green service champions:** Ecosystem of service enablers for green transition (i.e., distributors, maintenance)	**Green digital enablers:** Enabling software for the green transition (e.g., sustainability monitoring and reporting)

Risk profile

Capital/ asset intensity



Core industrial focus	Utilities, oil and gas, energy, manufacturing	Utilities, oil and gas, energy	Manufacturing	Manufacturing	Professional services, contractors	Software
Value-creation opportunity	Operational improvements	Operational improvements	Operational improvements	Investments to reach scale	Rollup/M&A; business development	Rapid growth through customer acquisition

Source: Bain & Company

to diagnose the sources and volume of carbon they emit, firms that can supply the software, tools, and services to collect and organize that data should thrive.

This explains the appeal of carbon-tech companies like Persefoni and Watershed. Over the last two years, these two firms have raised $101 million and $70 million, respectively, to fund expansion of software platforms that help companies achieve carbon transparency across their value chains and report the data effectively. (Disclosure: Bain has invested in Persefoni, and the firms have codeveloped a decarbonization manager to streamline companies' scenario planning based on relevant subsector experiences.)

Another example of a notable deal in this space is Blackstone's $1.4 billion acquisition in 2021 of Sphera, a software-as-a-service provider that helps companies manage ESG data.

Due diligence amid the transition

Ultimately, however, targeting the *right* company within these themes comes down to strong due diligence informed by deep expertise in these subsectors. Underwriting risk often boils down to assessing how technology, regulatory, and political considerations may impact a specific target company and when.

Bain Capital's recent $400 million investment in EcoCeres, a biofuels company based in Hong Kong, is a good example. Biofuels can be highly dependent on subsidies and other factors outside the control of investors. But Bain Capital gained confidence that EcoCeres had built a strong business model based on fundamentals. The company, which was incubated by Towngas, Hong Kong's first public utility, had developed a proprietary technology to convert waste-based biomass into biofuels, biochemicals, and biomaterials. It targets segments that have yet to see significant electric vehicle penetration, like aviation and heavy-duty vehicles. Unlike many renewable fuel companies, EcoCeres also operates at industrial scale with three refineries in China. It is aimed at markets with clear regulatory tailwinds: European countries subject to the EU's Renewable Energy Directive II.

The company's in-house technology, scale economics, and pricing power based on the sustainability value it delivers to customers give it the strong, defensible market position Bain Capital was looking for. It also offers additional ways to create value. Beyond its core biofuels emphasis, EcoCeres has opportunities to commercialize the industrial-scale production of other renewable chemicals and materials. And it has a robust R&D pipeline filled with value-added downstream products like green hydrogen. Given that Bain Capital only completed the deal in January 2023, it's too early to measure results. But EcoCeres gives the firm a clear and promising path to profit from the energy transition.

Underwriting risk often boils down to assessing how technology, regulatory, and political considerations may impact a specific target company and when.

Underwriting risk and opportunities to create value within the energy transition involves all the usual due diligence considerations. But experience suggests that it also requires paying extra attention to several critical factors, such as:

- the impacts of regulation and subsidies on company actions and consumer preferences, recognizing they can vary significantly across narrow geographies;
- how different cost and production assumptions may affect customer and competitor behaviors, especially for technologies that may be substitutable for others; and
- the potentially nonlinear impacts of technology improvements, and how likely it is those impacts will occur and be disruptive.

Disruptive potential is an especially tricky call. When one fund began looking into an agtech firm's claims that its real-time soil analysis technology would make farmers more efficient and less energy dependent, there was no question that the technology worked as advertised. It instantly gave a readout on chemical composition, moisture content, and a number of other crucial variables farmers need to know in order to plan effectively.

The bigger question was whether farmers really needed it. Customer inquiries showed that potential users were duly impressed by the technology but not enough to change their behavior. Large farms had in-house testing capabilities, and small ones were happy sending samples to outside labs. Revenues were growing, but projections suggested that breakout growth wouldn't come within the deal's time frame. The fund passed, recognizing that the market was happy enough with the status quo.

Evaluating how market growth might affect a given target company's trajectory is also complicated, as one fund discovered in a search to tap into the rapid growth of residential solar. Unenthused by the economics of manufacturers and installers, it was attracted to a higher-margin solar finance company focused on lending to homeowners. Yet a closer look was sobering. The pressure to provide real-time approvals for these relatively long-term loans made credit risk a serious issue. While there was plenty of growth, the fund couldn't get comfortable and decided to look elsewhere.

For Primavera Capital, however, tapping the growth of alternative energy—in this case, a maker of wind turbines called Envision Group—involved a more nuanced appraisal of growth potential. The company's strong historical performance reflected all the factors that have made the wind turbine business one of the most vibrant in the alternative energy sector. Yet from a diligence standpoint, the potential buyers needed to know how long that growth could continue.

The wind turbine market is highly cyclical and vulnerable to regulatory changes. While the overall market was still growing, installation of new turbines in a critical market had peaked because an important government subsidy was being phased out. That meant the market was bound to get more competitive, raising a pair of questions: How defensible was Envision's position? And was it developing new revenue streams to offset potentially slower growth?

Due diligence showed that the company's state-of-the-art products and technology, in addition to providing relative cost advantages, positioned it well to win share as the market matured and growth stabilized. And Envision had made timely investments in key adjacencies like energy storage and wind-farm operations. Those complementary new businesses promised to contribute significantly to gross margin through 2026 and to help improve customer stickiness. They also reduced the company's reliance on a single technology while protecting it from demand and regulatory shocks.

In ownership, the diligence findings are playing out. Over the past year, Envision has won important new turbine contracts in Spain, France, and India, and it is investing heavily to establish itself as a go-to technology provider for net-zero industrial parks. It also operates four R&D centers globally to innovate new ways to capitalize on the emerging low-carbon industrial ecosystem.

Playing offense and defense in the portfolio

While the energy transition promises to open up new areas for investment, it is also generating new risks and imperatives for PE portfolios. Between the demands of regulators, limited partners, lenders, and customers, demonstrable efforts to decarbonize are increasingly becoming table stakes for PE investment.

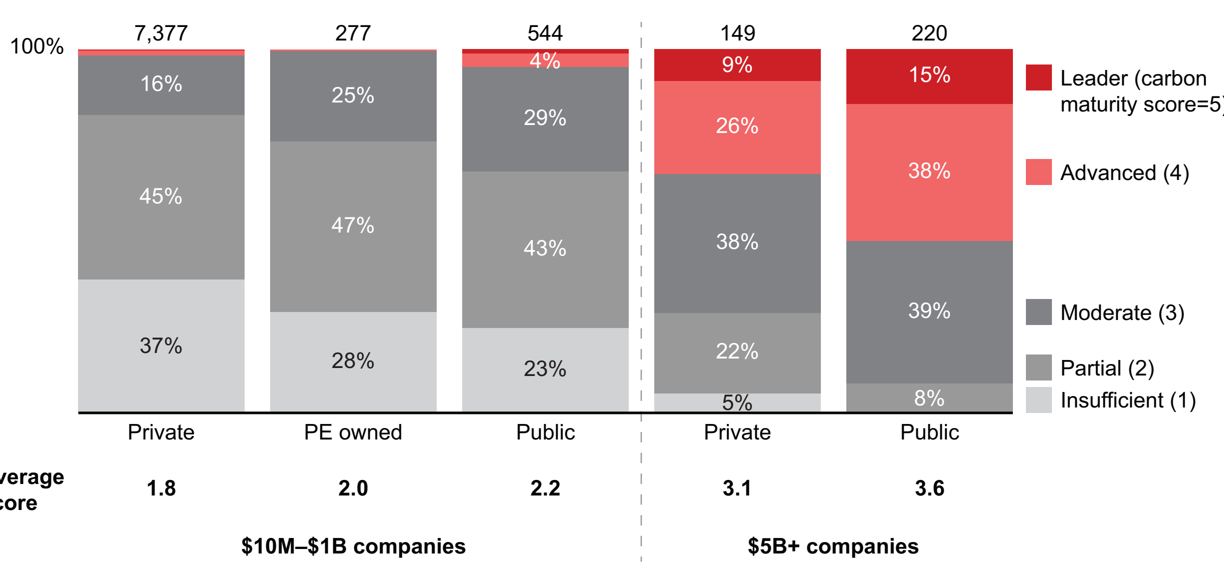
Companies large and small are under pressure to do more than make PR announcements about net-zero intentions. Investors and regulators are demanding that they establish clear emissions-reduction strategies that live up to standards and reporting protocols established by organizations like the Science Based Targets Initiative (SBTi) and CDP.

Until now, private companies have faced less pressure to adopt carbon-reduction strategies than their public counterparts. This explains why data from EcoVadis, the world's leading supplier of business sustainability ratings, in which Bain has an investment, shows that 53% of large public companies achieve top scores for carbon management while only 35% of large private companies do *(see Figure 3)*.

But that's changing as companies encounter new rules focused on Scope 1 and 2 emissions (a company's direct emissions and those generated as a result of energy purchases), as well as Scope 3 (emissions generated up- and downstream in a company's value chain). Proposed US Securities and Exchange Commission regulations demanding that public companies report on Scope 3 emissions, for instance,

Figure 3: Companies owned by private equity score slightly higher on carbon maturity than other private companies, but both trail their public counterparts

Number of companies by EcoVadis carbon maturity score



Sources: EcoVadis; Dealogic; S&P Capital IQ; Preqin; Bain analysis would force private suppliers upstream to measure and report on their performance. They, in turn, would pressure their own suppliers, pushing the decarbonization imperative even further across the economy.

Failing to prepare for a future in which portfolio companies are under pressure to transition to net zero constitutes a real risk for GPs. The firms getting it right don't view the challenge as a mere box to check off. Defensively, they see it as a way to shield the company's performance. Offensively, it is an opportunity to set up the company for exit by helping it define a pragmatic path to a cleaner future, with less exposure to regulatory risk.

Making decarbonization work requires approaching the value calculation holistically. There are obviously costs to decarbonization efforts—often substantial ones. But in experienced hands, those costs can be reduced by making the right choices about priorities and solutions. In this environment, PE firms and their portfolio companies need to ask themselves a couple of key questions. First, what's the potential downside of doing nothing about our carbon exposure? Second, how can we intelligently bring upside to the carbon challenge in the normal course of due diligence and value creation?

Failing to prepare for a future in which portfolio companies are under pressure to transition to net zero constitutes a real risk for GPs.

The carbon-reduction plan put in place at one large telecommunications company is a good example of how a well-rounded approach works. When the company was acquired a few years ago, top managers and their new private equity partners faced a complex challenge: how to balance their growth and carbon-reduction ambitions.

Investors and debtholders wanted growth *and* a clear decarbonization strategy. Major customers, meanwhile, were demanding explicit carbon-reduction commitments tied to SBTi standards and CDP reporting requirements throughout their supply chains. Those demands put as much as 20% of the company's revenue at risk by 2021, prompting leadership to draw up an aggressive strategy to reduce Scope 1 and 2 emissions to net zero by 2030 and Scope 3 to net zero by 2045.

Like most companies, this one lacked a comprehensive system to capture emissions metrics. So the first step was establishing a baseline for Scope 1, 2, and 3 emissions across the organization. Then, the company used marginal abatement cost curves to identify the highest-impact initiatives—those that would both achieve emissions targets and minimize cost to the company. It also identified opportunities to deploy tools like hydrogen generators that weren't ready now but could have major impact as the technologies matured.

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While the energy transition promises to open up new areas for investment, it is also generating new risks and imperatives for PE portfolios.

What it didn't do was launch a bunch of expensive, high-profile projects. Rather, the strategy embraced a mosaic of large and small initiatives that together drove the company toward its reduction goals. Working with 60 leaders across the company, top management encouraged the organization to own the program and find creative ways to reduce carbon within their business operations. The company could then map out priorities within the broader business context to ensure that reduction plans were practical and feasible.

The mix of initiatives included using smarter routing and scheduling algorithms to reduce fleet miles rather than making an immediate wholesale shift to electric and biodiesel vehicles. The company worked within its supply chain to add SBTi requirements into vendor contracts and reduce waste in logistics and ordering. What emerged was an SBTi-approved plan that, at run rate, would require a net investment of approximately $1 million annually—much less than anticipated. It would also protect hundreds of millions in revenues while dialing up the company's appeal as a supply chain partner. Because the strategy—which included a detailed governance structure, clear metrics, and a comprehensive operating plan—was cocreated with the company's line managers, it won broad organizational buy-in. That was central to minimizing financial and execution risk.

The energy transition is, in many respects, unique among the global paradigm shifts that have driven private equity dealmaking over the past three decades. It is fraught with politics, regionalism, regulatory uncertainty, and deep complexity. But it is also looking increasingly inevitable, suggesting that sitting on the sidelines is a clear risk for PE firms. As the transition builds into an engine of wealth creation (or destruction, if not addressed), firms need to develop the experience, hone the capabilities, and nurture the networks that will allow them to turn change to their advantage.

Web3 Remains Highly Relevant for Private Equity

Despite the hype and turmoil in the crypto world, web3 technology is here to stay.

By Thomas Olsen, Gene Rapoport, Alexander Mitscherlich, Kelly Pu, and Parker DeRensis

Anyone who lived through the dot-com meltdown in the early 2000s will undoubtedly see parallels in the current crypto collapse. Irrational exuberance (check). Lack of investment discipline (check). Implosions begetting implosions (check). Fraud and scammery (check and check).

But these two periods of excess share something else in common that will have a much longer-lived impact on investing. Just as the first generation of Internet technology matured to drive a wave of innovation in how we live and work, the technologies behind crypto—collectively known as web3—will continue to have broad impact beyond the world of Bitcoin and Bored Apes.

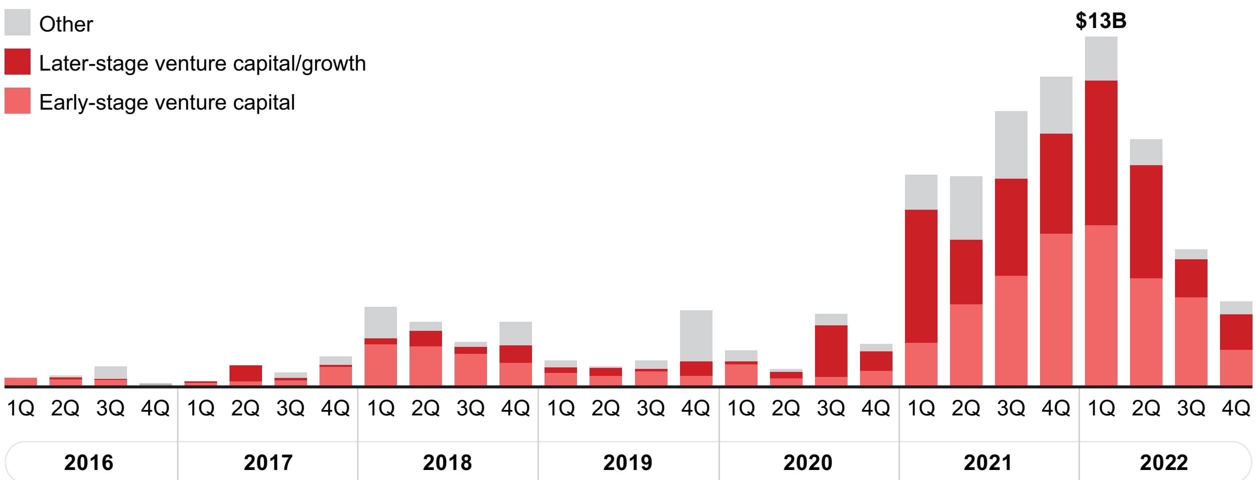
Paradigm shift?

Watching almost $3 trillion in web3-related asset value shrink by more than 70% is unnerving, to say the least. But the rise and fall of crypto isn't really the issue. What counts are the core underlying technologies that have made web3 possible, a set of innovations that will have far-reaching implications for many parts of the global economy, private equity included.

The emerging web3 ecosystem now boasts thousands of companies funded by approximately $94 billion in start-up capital from venture funds, hedge funds, private equity, and other investors *(see Figure 1)*. Major companies across industries—JPMorgan, Goldman Sachs, Google, and Disney among them—have begun to think about how web3 will influence their businesses and what it could unlock in terms of managing transactions and engaging with customers. Crypto and nonfungible tokens (NFTs) have led wealthy young consumers to some of web3's foundational concepts, like digital wallets that can be used across platforms. Forward-thinking private equity firms are also

Figure 1: Investors have poured approximately $94 billion into web3 companies in recent years, most of it since 2021

Capital invested in web3-related companies globally ($B)



Total 2016–2022: $94 billion

Notes: Equity investments only; does not include investments in crypto tokens; includes all deals classified in the Crypto/Blockchain vertical on PitchBook; Coinbase's 2021 direct listing excluded
Sources: PitchBook; Crunchbase; The Block; CoinDesk; Bain analysis

focused on the ways in which blockchains, tokens, smart contracts, and related web3 technologies will affect how they invest and operate.

These are still early days, and the recent crypto turmoil highlights how volatile technological innovation and regulatory transitions can be. But in some respects, the market correction and systematic cracks it exposed stand to encourage the sort of rulemaking and business model innovation that can accelerate web3's evolution. Much as in the early, halting days of e-commerce, the evidence suggests that these innovations are unlikely to fade away.

Already, we see three important ways in which web3 is becoming increasingly relevant for private equity:

- **As an investment theme.** Web3 will continue to attract sophisticated investors as blockchains and related technologies become part of the underlying infrastructure for a wide range of industries and use cases—not just crypto, which will be a small part of overall web3 development.

- **As a disruptive threat (or opportunity) for the portfolio.** Even if they aren't in the game as investors, proactive funds are scanning their portfolios and augmenting due diligence of traditional companies, looking for web3 disruption threats and opportunities to create new value.

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What's become abundantly clear in the wake of the crypto collapse is that underwriting risk in this space requires a blend of web3 expertise and common business sense.

- **As a tool for new fund strategies.** Digital tokens have the potential to transform how private equity funds raise and administer money. They could open up pathways to wealthy individuals and hasten the development of more-liquid fund formats. They could also lower administration costs and make fund operations more efficient.

The web3 investment opportunity

Despite all the Sturm und Drang around crypto, there's no denying it has been an important proof of concept for how web3 technologies work together. Web3's promise is an improved version of the Internet, one that is more interoperable than today's siloed web.

Web1, which launched in the 1990s, was read-only, meaning content was pushed at users and nothing flowed the other way. Web2 ushered in social media and the ability to post your own content. Web3 is evolving as a new kind of Internet, with open protocols and standards that allow for new avenues of value transfer, data sharing, and application development across platforms.

The foundational building blocks are blockchains, smart contracts, and tokens. Blockchains are open, decentralized databases and computing platforms that create security through a consensus mechanism. With the development of Ethereum starting in 2014, blockchains allowed users to securely execute lines of code—known as smart contracts—"on chain." Tokens, meanwhile, are digital representations of data or assets registered on the blockchain ledger. They can be imbued with clearly defined terms of use (such as trading or governance restrictions) and can carry with them reams of data (escrow information for a real estate asset, say, or gaming assets that can be moved from platform to platform).

From these building blocks come many core web3 concepts and tools. They include dApps (decentralized applications built on blockchain networks), DeFi (decentralized finance networks enabled by smart contracts), DAOs (decentralized autonomous organizations), digital wallets enabling persistent digital identity, and open metaverses *(see Figure 2)*.

An example of smart contracts, tokens, and decentralized finance in action is the project JPMorgan, DBS Bank, and SBI Digital Asset Holdings implemented in November 2022 for the Monetary Authority of Singapore. It enabled foreign exchange and government bond transactions against liquidity pools comprised of tokenized Singapore Government Securities bonds, Japanese government bonds, Japanese yen, and Singapore dollars. Similarly, Goldman Sachs recently used its tokenization platform to arrange a €100 million bond sale between the European Investment Bank and two others. The sale settled in 60 seconds instead of the usual five days.

Blockchain technology is abstruse. But it has opened minds to basic questions about the way things have always been run. Why, for instance, does it take more than an instant to wire money to London? If bitcoins can be traded around the clock, why not a share of Apple—or a piece of KKR's latest fund?

While blockchains, smart contracts, and tokens have gained the most traction in the finance sector so far, that's changing rapidly. Despite some growing pains, IBM's Supply Chain Intelligence Suite,

Figure 2: Web3 encompasses an array of concepts and tools

Infrastructure and building blocks

Blockchains	Smart contracts	Cryptocurrencies (digitally native money)	NFTs (nonfungible tokens)
Open and interconnected community-owned databases and computing platforms	Programs enabling automation and execution of software on a decentralized computing platform	Means to transfer value natively within a digital ecosystem	Blockchain-based, tokenized records that guarantee the unique identification of a digital asset

Applications of that infrastructure

dApps (decentralized apps)	DeFi (decentralized finance)	(Open) digital wallets	DAOs (decentralized autonomous organizations)	Tokenization of real-world assets	Open metaverses
Applications built on open networks enabling financial, social, and other activities	Financial platforms that run entirely on code using smart contracts on a blockchain	Online "passports" that combine aspects of identity, access, and ownership for the user	Member-owned communities with a shared bank account	Digital, universal representation of assets such as property, gold, and art	Digital spaces where users can live, interact, and explore

Sources: Bain & Company; Andreessen Horowitz

for example, helps companies use shared ledgers on blockchains to increase supply chain transparency and traceability, while sharing data more securely and efficiently with supply chain partners. In transport, companies including FedEx, UPS, Delta Air Lines, and BNSF take part in the Blockchain in Transport Alliance to develop standards for blockchain-enabled technologies in the transportation and logistics industries.

These efforts aren't easy. Besides the technical challenges, web3 solutions inevitably require changes to longstanding company and industry practices that can take time to resolve. But what started in Internet forums and white papers has turned into a full-fledged ecosystem over the last decade. Bain & Company's web3 and digital asset database tracks nearly 5,000 firms that have cumulatively raised more than $94 billion, most of it over the past three years. Investment in 2022 declined from the frenzied pace a year earlier. But even in a less heated market, private investors injected between $20 billion and $30 billion into web3-related companies during the year. And that number doesn't include the significant internal investments made by corporations and financial institutions.

Initially, the web3 space was the domain of early-stage investors. But dealmaking has broadened to include later-stage growth funds, crossover funds, and even buyout funds. In our experience, the funds wading into this volatile space successfully are establishing a few essential prerequisites:

- **They are carefully matching targets to their specific mandate and risk appetite,** making sure to create alignment around these choices from the investment committee on down. Firms are accomplishing this matching through their standard investment frameworks, but others are creating special vehicles. One large diversified buyout firm formed a separate fund with a clear mandate to go after Series A and B investments based on highly specific theses focused on web3 infrastructure.

- **They are rapidly standing up teams to develop fluency** in how web3 is likely to evolve over the next 5 to 10 years and networking across the ecosystem to tap or hire specialized expertise. One firm, for instance, formed a team of four professionals devoted to tracking the web3 space and finding investments. Part of its mandate was to upskill others on the broader team to drive web3 awareness across the firm.

- **They are combining depth in web3 with their existing sector expertise** to ensure that they understand specific use cases in due diligence and derive the sharpest investment insights subsector by subsector. Funds take two general approaches to this: creating a central web3 SWAT team to work with sector specialists, or embedding web3 specialists in select sector teams to eventually create subsector web3 experts. Either way, the benefit is balance: Web3 expertise is essential to identify the shape of potential disruption, and sector expertise is equally essential to understand specific industry impacts and which profit pools might be affected.

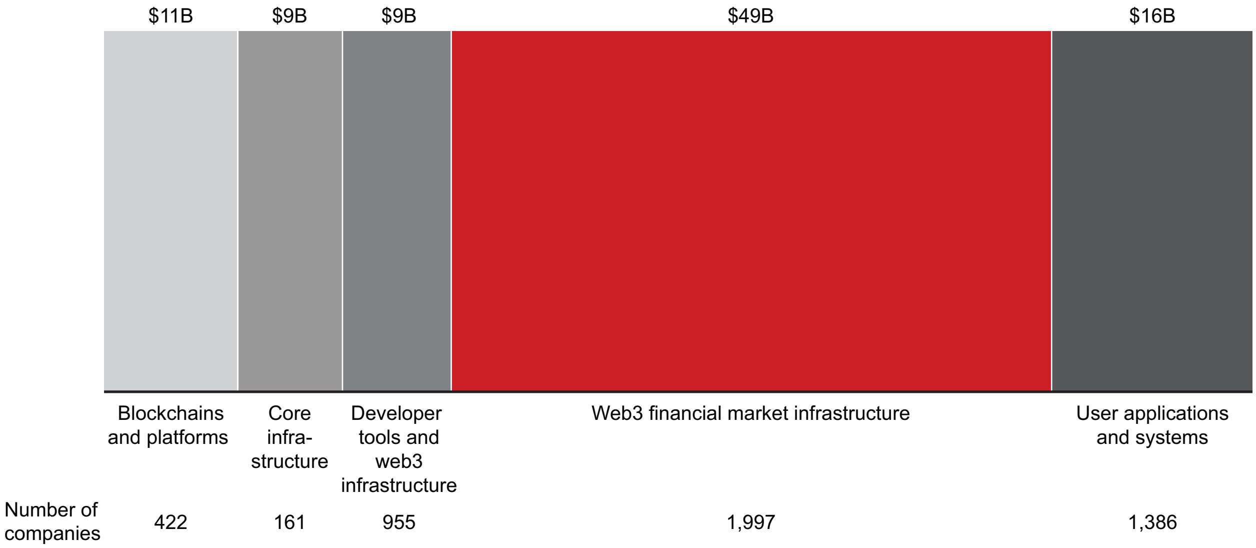
A pragmatic way to make sense of the web3 universe is to separate it into categories. Financial infrastructure companies like crypto exchanges, brokerages, and custodians have attracted by far the most investment to date *(see Figure 3)*. But capital is increasingly flowing to other parts of the ecosystem—the companies developing layer-one and layer-two blockchains, for example, or the core technology at the foundation of this infrastructure. There are also firms building software and developer tools on top of blockchains that enable specific use cases. Finally, there are user-facing applications and systems like gaming apps or NFT markets.

Clearly, the activity within these themes runs the gamut in terms of risk. The sector is rife with highly speculative, overly leveraged, or outright unsustainable business models, many of which are currently being shaken out. But there are also later-stage companies with more scale that have real structural value and staying power. Given the sector's general state of fluidity, many investors may choose to focus on the closest thing this space offers to traditional tech-sector investing—"pick and shovel"-type companies that are both supporting current web3 activity and positioning themselves to take advantage of emerging use cases across the economy.

One example is Fireblocks, a promising custodial infrastructure platform that announced in September 2022 that its annual recurring revenue had surpassed $100 million. Fireblocks develops enterprise software tools that help companies manage digital asset operations. Financial companies like BNY Mellon use the software to securely hold clients' digital assets in regulatorily compliant custody, and Fireblocks maintains a settlement network so those assets can be transferred seamlessly between

Figure 3a: Financial market infrastructure companies have received more than half of all web3 investment to date, but the market is broadening

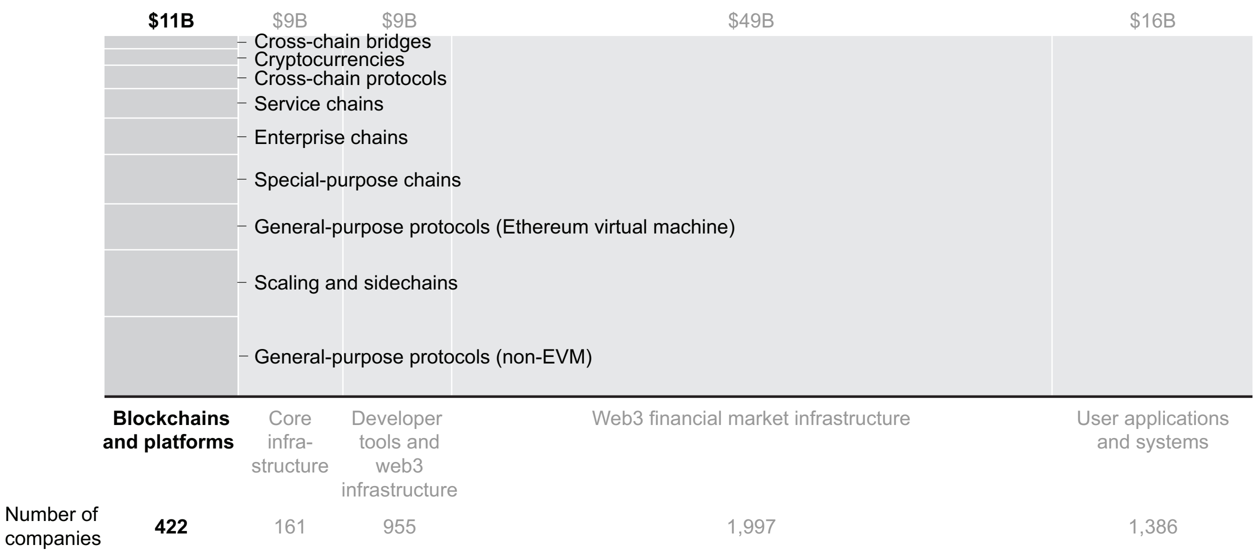
Total disclosed funding received by companies in database, by primary subsegment



Note: Chart excludes approximately $30 million in funding from companies that have raised less than $1 million in total funding
Sources: Crunchbase; The Block; Bain Crypto Database

Figure 3b: Blockchains and platforms have attracted about $11 billion of web3 company funding

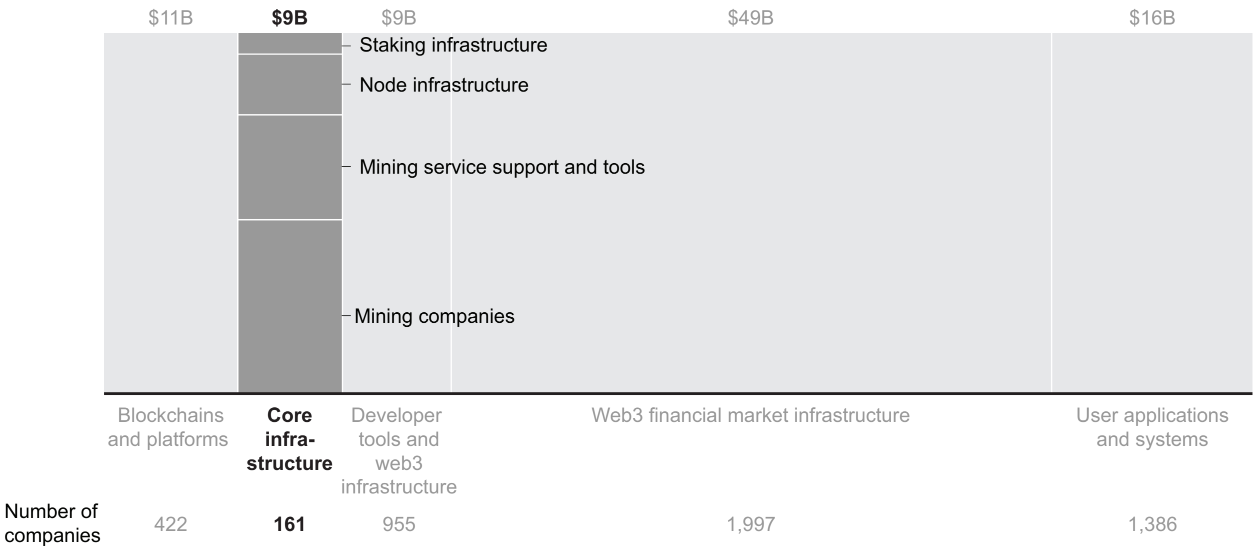
Total disclosed funding received by companies in database, by primary subsegment



Note: Chart excludes approximately $30 million in funding from companies that have raised less than $1 million in total funding
Sources: Crunchbase; The Block; Bain Crypto Database

Figure 3c: Core infrastructure has attracted about $9 billion of web3 company funding

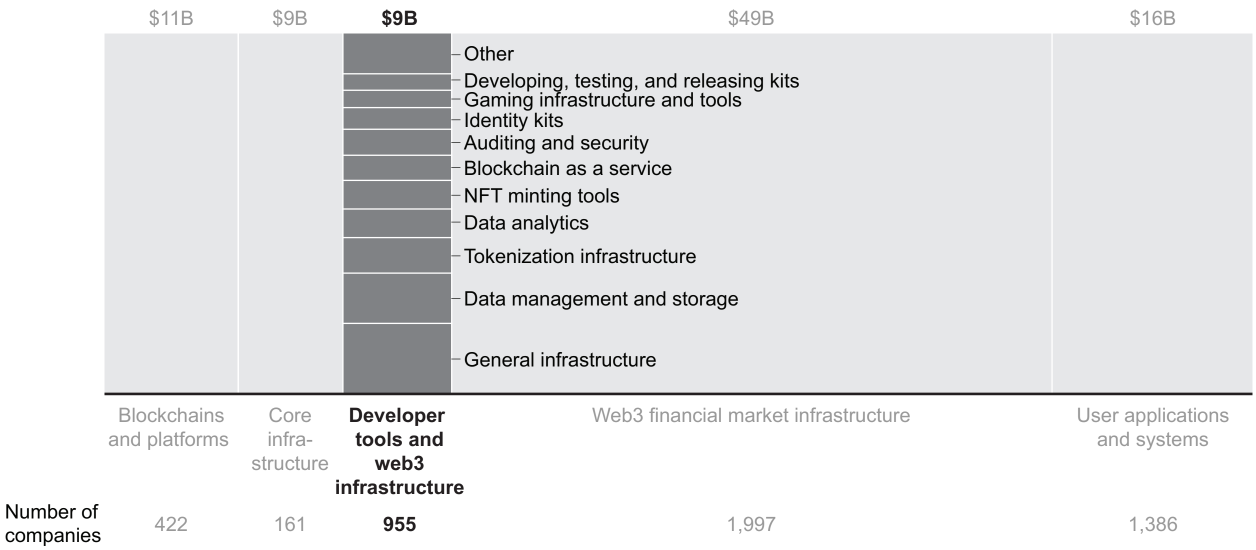
Total disclosed funding received by companies in database, by primary subsegment



Note: Chart excludes approximately $30 million in funding from companies that have raised less than $1 million in total funding
Sources: Crunchbase; The Block; Bain Crypto Database

Figure 3d: Developer tools and web3 infrastructure have attracted about $9 billion of web3 company funding

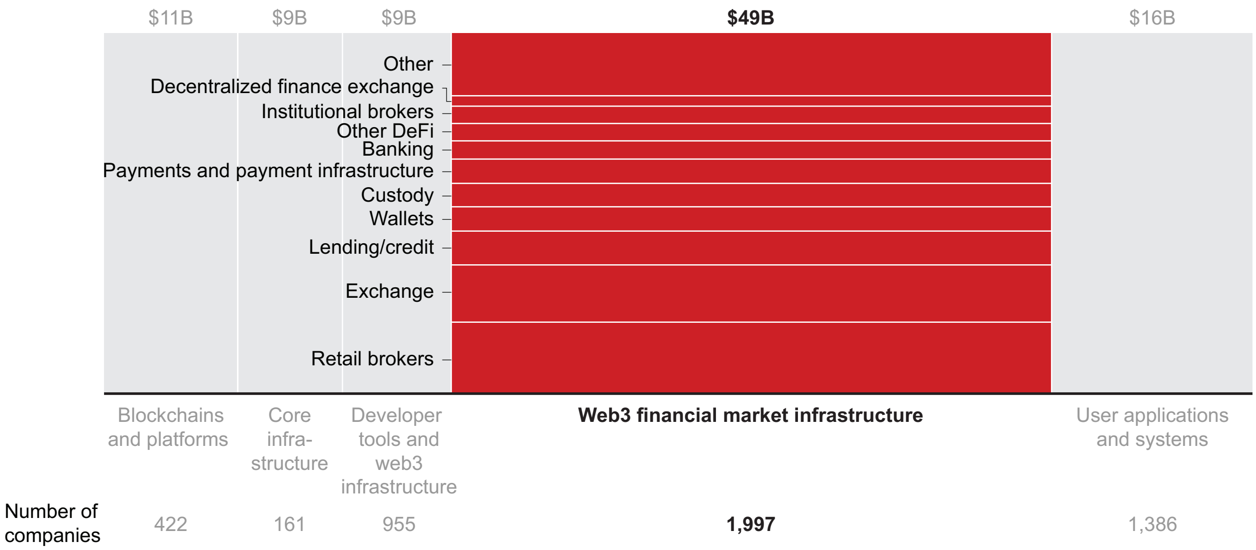
Total disclosed funding received by companies in database, by primary subsegment



Note: Chart excludes approximately $30 million in funding from companies that have raised less than $1 million in total funding
Sources: Crunchbase; The Block; Bain Crypto Database

Figure 3e: Financial market infrastructure companies have received about $49 billion of web3 company funding

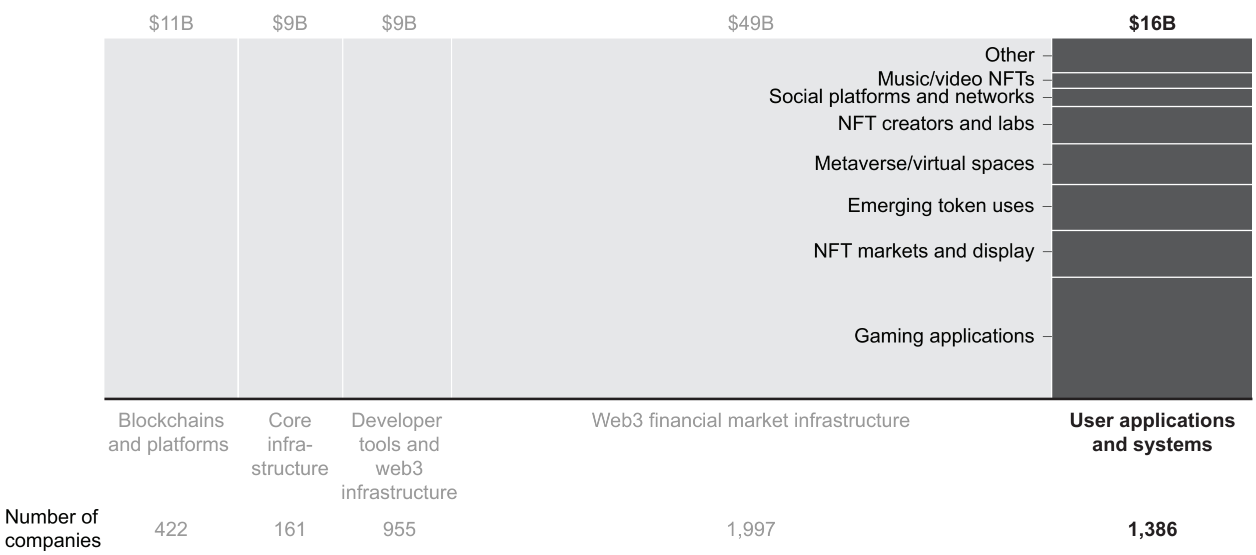
Total disclosed funding received by companies in database, by primary subsegment



Note: Chart excludes approximately $30 million in funding from companies that have raised less than $1 million in total funding
Sources: Crunchbase; The Block; Bain Crypto Database

Figure 3f: User applications and systems have attracted about $16 billion of web3 company funding

Total disclosed funding received by companies in database, by primary subsegment



Note: Chart excludes approximately $30 million in funding from companies that have raised less than $1 million in total funding
Sources: Crunchbase; The Block; Bain Crypto Database

Fireblocks wallets when they are bought and sold. The company has raised $1 billion in funding from BNY Mellon and other leading investors, including Coatue and General Atlantic, partly on the bet that crypto is just the beginning. Currently, Fireblocks solutions focus on safely storing and transferring tokens like Bitcoin, but the company is positioned to service firms storing other tokenized assets that might emerge in the future.

Other pick-and-shovel companies include “node” businesses like Alchemy and QuickNode, which help run the connection points between users or developers and chains, whether the transactions involve crypto, tokenized bonds, or anything else. Likewise, Chainalysis, Elliptic, and TRM use analytics in various forms to monitor transactions and smart contracts on blockchains to ensure compliance and that the digital infrastructure is safe. Crypto-related applications have powered growth for these companies so far, but their technology can monitor any kind of blockchain transaction. That helps explain why Mastercard bought Chainalysis competitor CipherTrace in 2021 to “differentiate its [Mastercard’s] card and real-time payments infrastructure” as merchants increasingly seek to build virtual asset offerings.

What’s become abundantly clear in the wake of the crypto collapse is that underwriting risk in this space requires a blend of web3 expertise and common business sense. Much as it was in the dot-com era, the investors that have run into trouble are those that failed to truly understand underlying business models—or if there even was one. Too many this time around have placed what amounted to heavily leveraged bets on companies whose value rested on the price of crypto, often perilously so.

As the dot-com bubble taught us, the biggest gains in the aftermath of a crash accrue to investors that can sift through the wreckage and identify the companies with viable, scalable business models—the best-in-class companies that are capable of generating cash sooner rather than later. Public markets will buy and sustain anything the venture funds are selling on the way up, but only some will find a way forward once the spigot is turned off.

Web3 is nascent enough that winners and losers are difficult to discern right now. But that’s why the funds with the best chance of identifying them are standing up web3 teams and marrying them with their firms’ seasoned investment professionals. Finding strong targets and underwriting risk will rely on the ability to draw out potential scenarios using a future-back approach. But it will also require fundamental due diligence. Is the business plan viable? What is the unit-cost analysis? When can investors reasonably expect to see real cash flow? Who are the company’s customers, and are they credible? Is there a path to scale?

Firms can tailor the decision to invest in the web3 space to match their mandate and risk appetite. But success will ultimately entail augmenting your differentiated value proposition with web3 knowledge and expertise. While that takes commitment, it will likely pay off in fresh investable insights as web3 continues to evolve.

Identifying disruption threat (and opportunity) across the portfolio

While funds that focus on more mature companies and industries may not want to play in the web3 arena, they'd be ill advised to ignore it. Over the next decade, the burgeoning set of web3 innovations could affect a broad sweep of industries and companies, some of which aren't necessarily obvious today.

Funds need to understand what these changes might mean for more traditional portfolio companies—both in terms of disruption risk and opportunities to go on offense. Those insights come from scanning the current portfolio for potential web3 exposure and probing these issues in due diligence.

One large diversified fund, for instance, has evaluated where web3 developments could present threats or opportunities for portfolio companies and where the potential impact is too far off to worry about given the expected holding period. These insights flow to the firm's portfolio teams, who can then use them to help companies navigate challenges or seize opportunities.

They also inform due diligence. When conducting diligence on a payments company recently, another large buyout fund added a web3 module to its usual process. That helped the team discover potential risks of web3-based disruption, which ultimately became meaningful in valuing the company.

The most effective scans map a portfolio sector by sector, looking at the pace of potential disruption, regulatory changes, and other factors that might accelerate or decelerate change. That leads to a clearer picture of how and when web3 is likely to reshape the industry and how much opportunity there might be to capitalize on those shifts *(see Figure 4)*.

In sectors like financial services, the threat of significant change is already apparent. But the balance of risk and opportunity differs by subsector—and even for individual companies within a subsector. In payments, for instance, open transactional infrastructure and lower-cost networks could pose a threat to traditional interchange and other profit pools over the next 10 years. Yet there's real potential for incumbents to adapt, using web3 technology to develop faster, lower-cost payment rails that can build on and improve existing industry infrastructure.

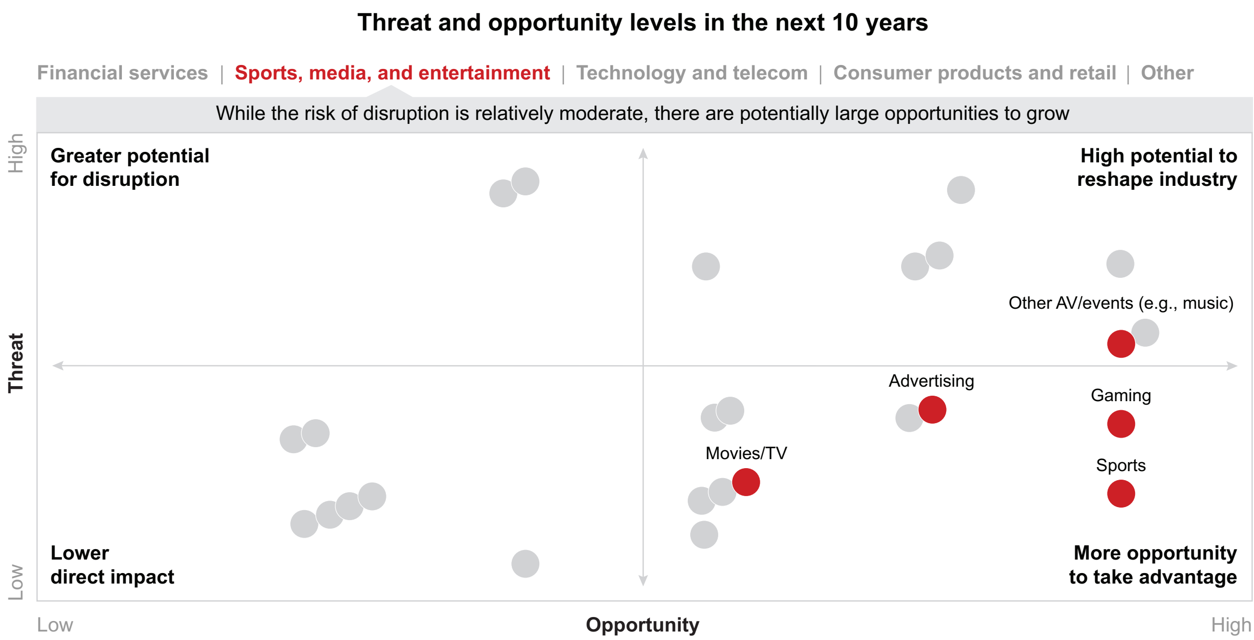
In other sectors, like sports, media, and entertainment, there is less potential for wholesale industry transformation but a rich opportunity to create new products, customer engagement models, or monetization strategies. A good example is Breitling, owned by Partners Group and CVC, which is using NFTs to give customers ready access to product and warranty information, as well as the ability to transfer ownership via blockchain. Practically every sports league globally is studying or experimenting with NFT ticketing and other ways to boost fan loyalty and monetize content. Ticketmaster now enables event organizers to link NFTs to an attendee's ticket.

As these technologies find their way into more and more sectors, they have the potential to alter the competitive landscape and shift profit pools. That should make web3 top of mind for fund managers and portfolio companies.

Figure 4a: Web3 has the potential to reshape profit pools in several industries, particularly financial services, tech/telecom, and sports/entertainment

Notes: Directional; some points moved slightly to avoid overlapping
Source: Bain & Company

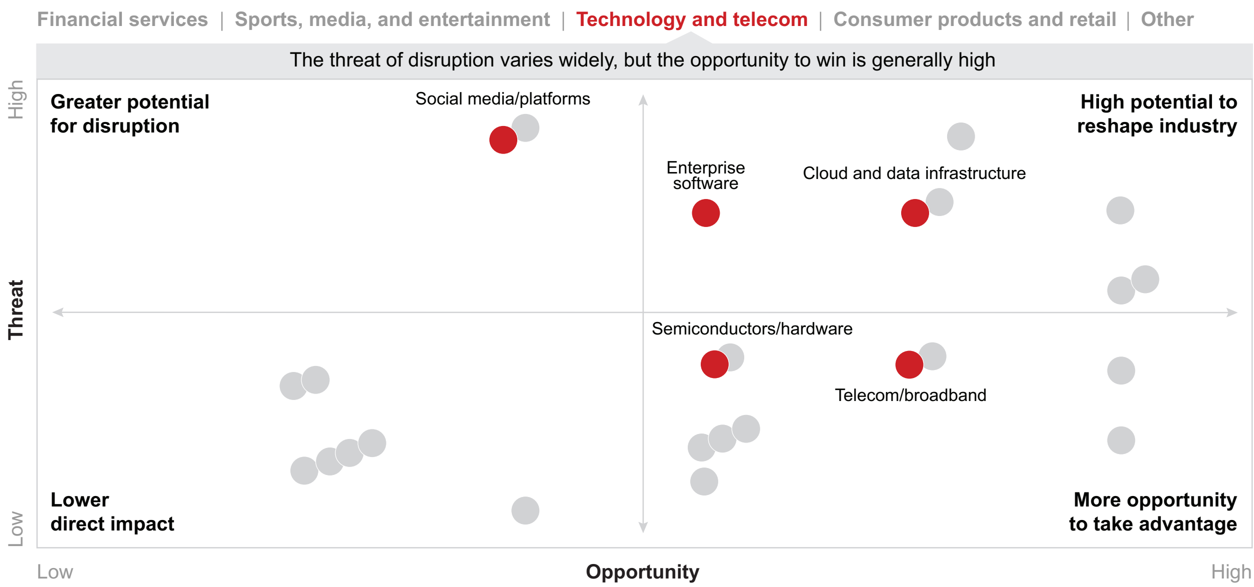
Figure 4b: Web3 has the potential to reshape profit pools in several industries, particularly financial services, tech/telecom, and sports/entertainment



Notes: Directional; some points moved slightly to avoid overlapping
Source: Bain & Company

Figure 4c: Web3 has the potential to reshape profit pools in several industries, particularly financial services, tech/telecom, and sports/entertainment

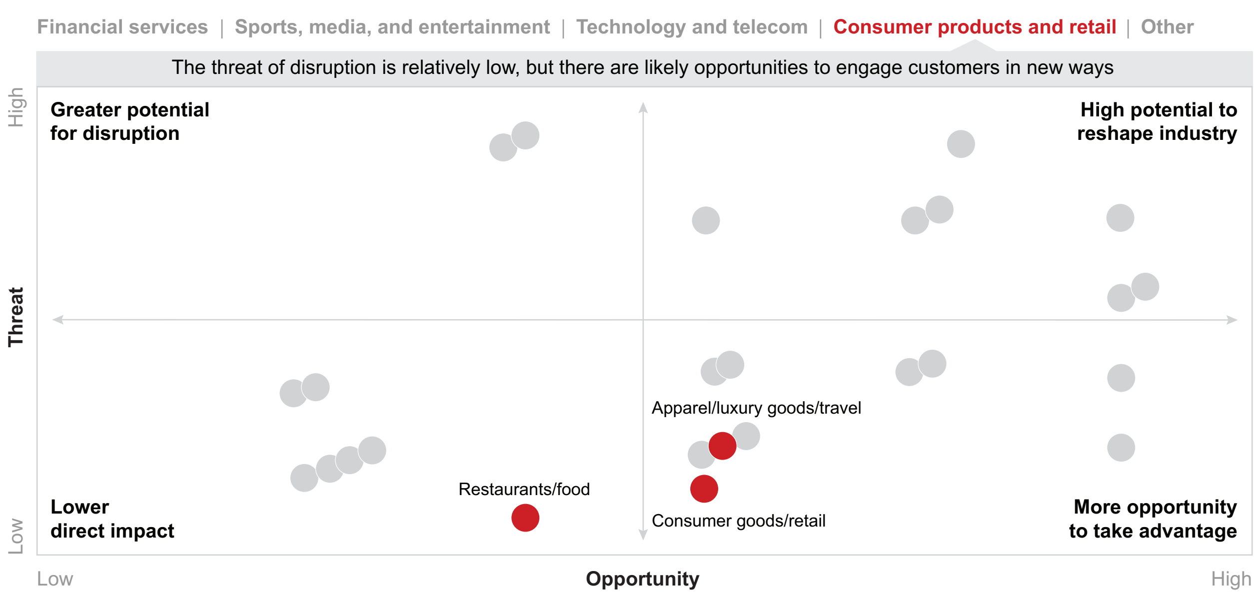
Threat and opportunity levels in the next 10 years



Notes: Directional; some points moved slightly to avoid overlapping
Source: Bain & Company

Figure 4d: Web3 has the potential to reshape profit pools in several industries, particularly financial services, tech/telecom, and sports/entertainment

Threat and opportunity levels in the next 10 years



Notes: Directional; some points moved slightly to avoid overlapping
Source: Bain & Company

Figure 4e: Web3 has the potential to reshape profit pools in several industries, particularly financial services, tech/telecom, and sports/entertainment

Notes: Directional; some points moved slightly to avoid overlapping
Source: Bain & Company

A web3 lens on fund management

Even as they consider how web3 is affecting companies in their portfolios, a growing number of private equity firms are moving decisively to explore how web3 might change the way they think about strategy and operations. The ability to tokenize real assets via blockchains and smart contracts could lead to important innovations and features for alternative asset products.

Notably, tokenization could allow fund managers to build in tailored secondary liquidity mechanisms or make it easier to use fund investments as collateral. That offers a range of potential benefits:

- It could enhance fund-raising potential by opening up portfolios to a broader set of investors, including high-net-worth and affluent individuals, who hold a massive pool of capital largely untapped by private equity funds.
- It could create a differentiated value proposition by lowering upfront investment requirements and giving individual investors a streamlined experience, much like how they manage their investments in traditional public securities.
- On the operations side, tokens could lower administration costs by automating manual processes and enabling structured secondary trading mechanisms, custody, margin lending, reporting, and other features that could also be tailored to different types of fund products.

- Smart contracts and distributed ledgers promise to enhance efficiency and transparency by creating an immutable record of historical token ownership, lowering the cost and complexity of reporting and regulatory compliance.

For large firms looking to accelerate growth in assets under management (AUM), fund tokenization has become a significant focus. As we discuss elsewhere in this report, half of the world's investable wealth is owned by individuals. Yet these investors account for only 16% of the AUM held by alternative funds. Tokenization is one way to tap this vast market.

Already, many private equity players have launched pilots to explore how they can take advantage of the liquidity, efficiency, and distribution benefits of tokenized business models. As early as 2021, Apollo teamed up with infrastructure provider Figure to develop blockchain-based financial applications. More recently, KKR worked with infrastructure partner Securitize to tokenize a small slice of its $4 billion Health Care Strategic Growth Fund II on the Avalanche blockchain. Tokens will be tradable on a secondary market managed by Securitize after a one-year holding period.

Partners Group and Hamilton Lane, meanwhile, are separately working with Singapore-based private markets exchange ADDX to tokenize parts of their €5.5 billion Global Value SICAV and $1.85 billion Global Private Assets funds, respectively. Both are going after an even broader set of investors by reducing the minimum ticket size to $10,000.

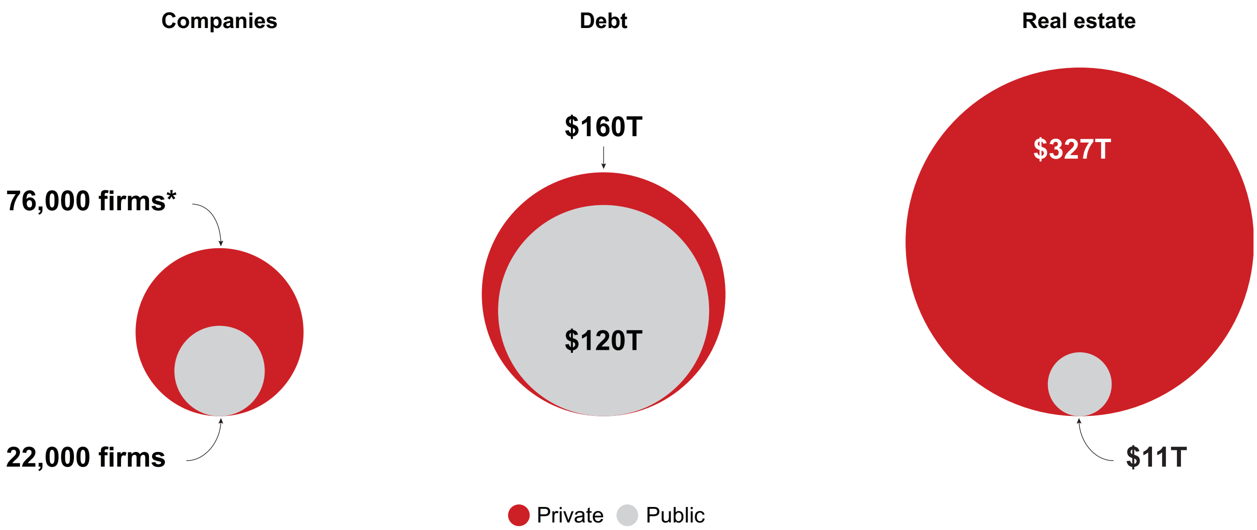
Theoretically, any asset class can be tokenized, but some are better suited than others. Inefficient, illiquid markets with easy-to-authenticate assets, like private equity, private debt, and private real estate, probably have the most to gain. Compared with public markets, these three fund classes have relatively manual and costly processes. Yet they have massive pools of AUM that are currently off limits to most investors *(see Figure 5)*. Tokenizing these markets could introduce a step change in efficiency and access.

As a practical matter, few but the biggest funds have the resources to experiment with blockchain-based retail investor strategies today. Development costs are high, and there are many challenges to broader implementation. One of the trickiest issues is how to manage investor expectations around liquidity provisions involving relatively illiquid assets. Blackstone found that out last year when its retail-focused real estate and credit funds were hit with a wave of redemptions that forced some rethinking on liquidity policies and tools.

Nearer at hand, however, are solutions based on blockchains and smart contracts that can transform back-office operations. It's easy to imagine a time in the not-so-distant future when the back-office staff devoted to all the nuts and bolts of fund administration shrinks, even as the fund manages a more complex group of products and limited partners (LPs). Smart contracts can readily automate routine tasks like distributions or capital calls. They can maintain cap tables or ensure that tax issues are handled promptly and efficiently, including for LP holdings that have been transferred in a secondary transaction. With fund details and investment transactions recorded on the blockchain, funds will be able to provide new visibility to regulators and speed up the compliance process. These

Figure 5: Tokenization will most benefit private capital markets that are easy to authenticate but relatively inaccessible to many investors

Size of six global markets, 2021



Notes: Includes companies in OECD member countries with more than 250 employees; data on the number of companies as of 2019; all other data based on 2021 figures
Sources: SIFMA; CAIA; Savills; IIF; OECD; Bain analysis

innovations can streamline interactions with LPs and other investors while cutting costs and freeing up dollars to be put toward investment activity.

Standing up these solutions will require investment, but probably not as much as one might expect. Already, companies like FIS, Broadridge, and iCapital are building blockchain-based administration solutions aimed at middle-market funds. The message is clear: Funds don't need to develop their own web3 solutions. For most, the right approach may be to work with the innovative fund administrators and technology providers capable of developing tools and solutions for them.

Whether you're an investor funding the next generation of IT infrastructure, a fund manager performing due diligence on traditional companies exposed to web3 changes, or a PE strategist evaluating new types of funds and distribution channels, web3 is very likely to emerge as a critical theme over the next 10 years. It may not be time yet to dive in headfirst. But, for many funds, it is time to begin building depth in web3 and evaluating how to turn this technological shift into an advantage.

Why Private Equity Is Targeting Individual Investors

Retail investors account for half of all wealth globally. No wonder alternative funds have them in their sights.

By Or Skolnik, Markus Habbel, Brenda Rainey, Alexander De Mol, and Isar Ramaswami

It's hardly mysterious that private equity sees individual investors as the next great growth engine.

The opportunity can be captured in two numbers: 50% and 16%. Individual investors hold roughly 50% of the estimated $275 trillion to $295 trillion of global assets under management (AUM). Yet those same investors represent just 16% of AUM held by alternative investment funds *(see Figure 1)*.

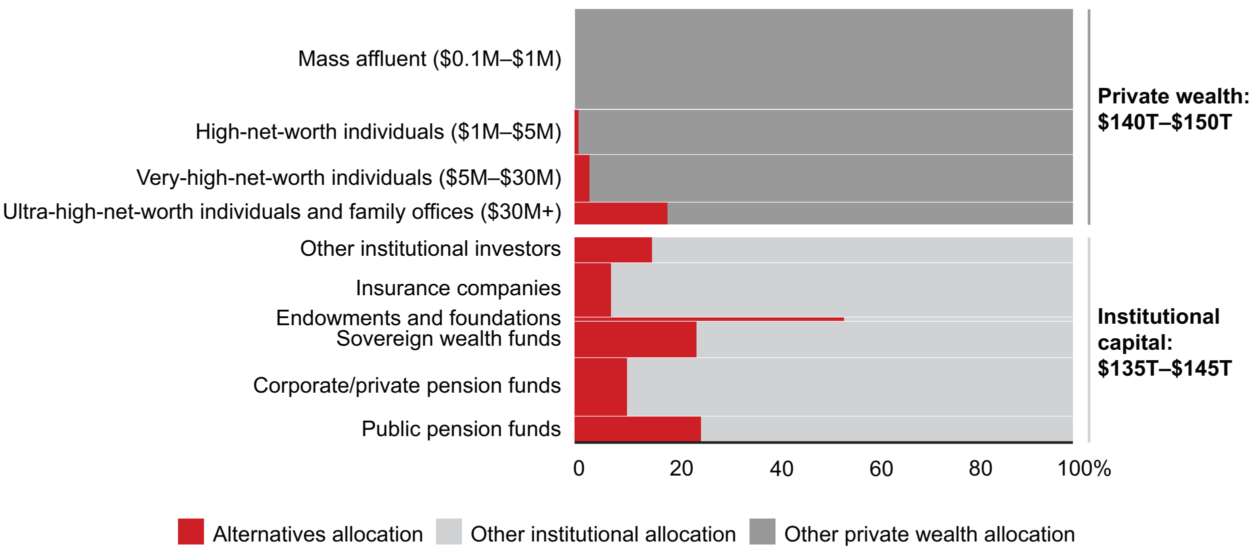
This vast, untapped market has become increasingly attractive to alternative asset managers seeking to sustain double-digit growth even as the industry matures. The reverse is also true: Wealthy individuals (not to mention their advisers) are increasingly drawn to alternative investments as they look for new diversification options and better returns than they can get in the traditional markets for public equity and debt.

There is strong motivation on all sides to push the ball forward. Many of the largest alternative managers have launched funds providing high-net-worth individuals access to various alternative asset classes. Banks and advisers are exploring ways to add more alternative offerings for clients. And the fintech ecosystem is fast developing tools and solutions that could streamline distribution and make it more affordable.

What's clear amid the experimentation, however, is that there's nothing easy about it. Fund managers, financial advisers, and individuals all face a steep learning curve in making these new channels work at scale. When Blackstone met with significant redemptions in two groundbreaking retail funds last year, it highlighted the complexity of managing a large group of investors with very different liquidity

Figure 1: Individual investors hold roughly half of all global wealth but account for a much smaller share of private capital AUM

Global wealth by investor type, 2022



Sources: Preqin; GlobalData; Bain analysis

expectations than the institutional investors PE firms are used to. It will take time for the industry to work through new market challenges like these while simultaneously developing the muscles to compete in an unfamiliar arena. Experience so far suggests the industry has yet to really crack the code on retail.

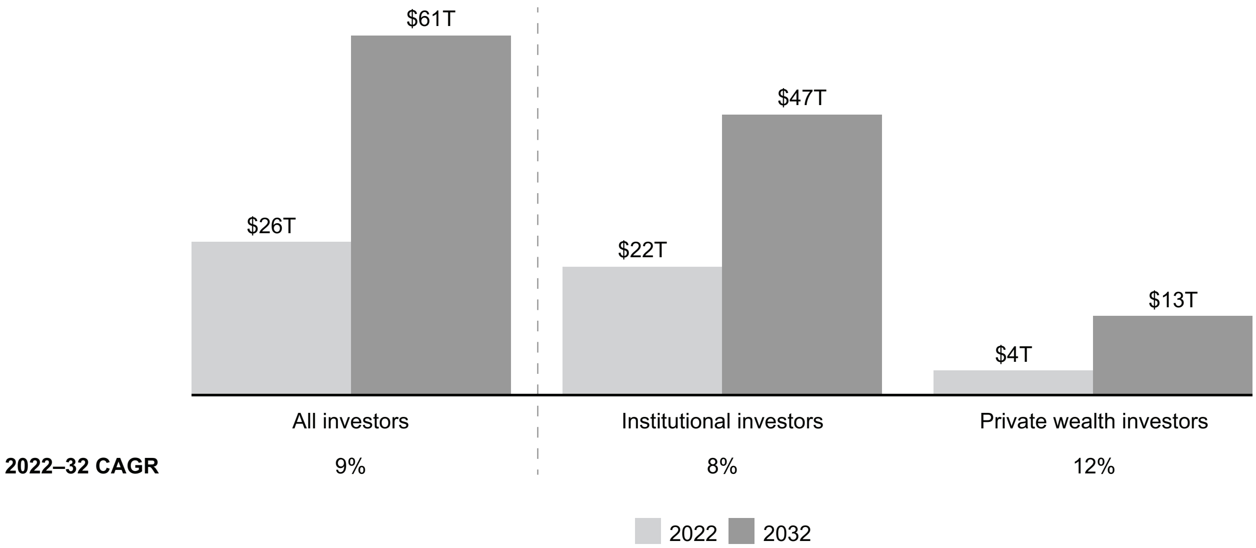
The growth (and diversification) imperative

To date, the largest fund managers have been leading the charge into retail markets because they have both the greatest need for new capital sources and the most resources to chase them. For public firms, management fee growth is strongly correlated with public market valuation. So, most of these giants aspire to expand fee-bearing AUM at double-digit rates into the foreseeable future—goals that will require an unprecedented volume of new fund-raising.

At the same time, however, it is unclear whether the industry's traditional sources of fund-raising (large institutions) can continue to support that kind of growth. Bain & Company projects that institutional capital allocated to alternative investments will grow 8% annually over the next decade. Individual wealth invested in alternatives, meanwhile, is expected to grow 12% annually over that period, albeit from a much smaller base. Taken together, these sources would support 9% annual growth in AUM through 2032. That's better than 8%, but still not a path to double-digit growth *(see Figure 2)*.

Figure 2: Retail capital is expected to grow quickly, but it will have to grow faster still to meet industry growth aspirations

Estimated global alternatives AUM by investor type



Note: Column totals are rounded
Sources: Preqin; GlobalData; Bain analysis

Consequently, the push to open access to more retail capital has become a high priority for some of the industry's largest funds, many of which have set explicit ambitions for boosting individual investor AUM. Blackstone sees potential to expand retail capital from $200 billion to $500 billion, KKR expects between 30% and 50% of new capital raised over the next few years to come from the private wealth channel, and Apollo seeks to raise $50 billion in retail capital cumulatively from 2022 through 2026.

The question for the next tier is whether to follow suit. Many firms are reexamining their own growth and fund-raising ambitions—whether in relative or absolute terms—and asking if individual capital should play a role. There is no right answer; it depends on a firm's specific funding strategy and objectives. But sensing a competitive shift, more and more firms are undertaking the analysis.

Increased access to private equity is also drawing keen interest from individuals and their advisers. Not only are private equity's historically superior returns attractive (14% globally over the past 25 years vs. 7% for the MSCI World Index), but true diversification in the public markets has become harder to achieve over time.

The number of public companies has declined in recent decades, leaving public investors closed off from large parts of the global economy *(see Figure 3)*. Movement in the S&P 500 has come to be dominated by a handful of very large technology companies. Moreover, the recent inflationary

Figure 3: Fewer than 15% of companies with revenue over $100 million are publicly held, giving public investors narrow exposure to the broader economy

Number of US companies with $100M or more in annual revenue

Notes: S&P Capital IQ data as of December 2022; most recent data from Statistics of US Businesses (2017) used to triangulate S&P Capital IQ estimates for privately held company counts by revenue band
Sources: S&P Capital IQ; Statistics of US Businesses; Bain analysis

environment has made it difficult to hedge against downside risk through the traditional allocation formula of 60% stocks and 40% bonds. Prices for those two asset classes, which historically have moved in opposite directions, became positively correlated as rising interest rates triggered declines in equity prices during last year's market rout.

Mixing in private assets would give advisers and their clients additional options for building portfolios that pair attractive returns with new forms of diversification. It could also provide new fee opportunities for the channel partners and digital platforms lining up to distribute these new products.

Receding barriers

The alternatives markets haven't been closed off entirely to individual investors over the years. But entry has largely been limited to the highest end of the wealth scale due to a number of structural barriers—regulation, lack of access, economics, and liquidity constraints.

The financial industry divides the universe of individual investors into tiers based on wealth: ultra-high-net-worth individuals (those with more than $30 million in investable assets), very-high-net-worth (more than $5 million), and high-net-worth ($1 million to $5 million). Below these tiers is the mass affluent segment: individuals with meaningful portfolios but investable assets of less than $1 million. A substantial share of wealth in this mass affluent segment is invested in retirement plans.

Private equity has already made significant progress reaching individuals at the highest end of the spectrum ($100 million to $500 million-plus), and the mass affluent segment at the bottom is the most shielded by regulation. Consequently, the industry is focusing most of its attention on the large untapped market in the broad middle, using innovative fund structures and technology solutions designed to make the historical barriers less onerous.

Private equity is focusing on the broad middle of the retail market, using innovative fund structures and technology to make historical barriers less onerous.

Regulation. The impact of regulation on individual investors has been changing in two ways. First, rules defining who can and cannot invest in certain types of private funds have eased off somewhat in recent years. In 2020, for example, the US Securities and Exchange Commission broadened the definition of "accredited investor" beyond wealth-based criteria to include individuals with sufficient "knowledge and expertise" regarding an investment. Second, general partners (GPs) have been innovating steadily to structure funds that are both compliant with regulations and open to larger segments of the individual investor market.

Traditional buyout funds hoping to target the mass affluent market are still deterred by government guidance around the level and complexity of fee structures when serving this lower tier. But for higher wealth tiers, firms like Ares Management and Partners Group have opened doors to alternative asset classes by working within the Investment Company Act of 1940 to tailor funds aimed at different audiences, making trade-offs between access and fee limits. Real estate and credit funds have been particularly innovative.

The net result of rule changes and product innovation is that a growing number of individuals across regions are gaining access to more types of alternative investments.

Access. Private equity's traditional focus on building lasting relationships with a relatively small cohort of large institutional investors means the industry has done little historically to create the distribution and marketing infrastructure required to reach individuals and build awareness with them. But that's also changing as an ecosystem of intermediaries springs up to create channel partnerships and educate both advisers and individual investors on how alternative assets work.

Traditional wealth advisers like private banks and registered investment advisers are setting themselves up to distribute alternative investments to their clients. That not only gives them a broader menu of diversification options but also a substantial new stream of fee income.

The number of digital pathways, meanwhile, has exploded. Emerging digital players like Moonfare, iCapital, and Opto Investments have built platforms—some aimed at financial advisers, some aimed directly at individuals—that offer low-cost access to a wide range of alternative products.

Moonfare, for instance, is a fast-growing direct-to-consumer platform based in Berlin that offers self-certified investors access to PE funds by pooling individual investments. iCapital is a much larger firm based in New York that uses a similar pooling model to aggregate investments in buyout and other types of alternative investments. But it targets accredited investors through private banks like UBS. Opto Investments employs a model similar to iCapital's but focuses on financial advisers rather than private banks. Notably, Opto offers software that supports back-office functions and investment decision making, which helps financial advisers manage the complexities of alternative asset classes.

The net result of rule changes and product innovation is that a growing number of individuals across regions are gaining access to more types of alternative investments.

As we discuss elsewhere in this report, the alternatives industry is also exploring how smart contracts and tokenization could potentially streamline these digital pathways. Firms like KKR and Hamilton Lane have launched tokenized fund structures that provide liquidity mechanisms for individuals. These models promise to cut administrative costs and improve economics for GPs, with the goal of lowering minimums and creating a retail-like user experience. The initiatives so far involve small slices of larger funds and are very much in the pilot stage. But they are generating wide interest among funds looking to build faster, more efficient bridges to the individual market.

Economics. Historically, the private equity industry's steep investment minimums and high fees have worked with regulatory restrictions to put funds out of reach for most investors. But as the industry matures and scales, it should get cheaper for individuals to find a seat at the table.

Already, digital distribution platforms have exerted downward pressure on fees—the fees charged by private banks and financial advisory firms in the middle of the distribution channel, not those charged by PE funds themselves. As a result, GPs are more than happy to keep structuring low- (or lower-) minimum funds for individuals that draw in new fee-generating assets. The banks and advisory firms, meanwhile, are working on innovative ways to streamline and cut costs in their own operations.

Liquidity. The private equity investment model is geared toward very large, patient investors willing to lock up their money for a period of years before they see any distributions. So, it's no surprise that liquidity is one of the biggest challenges GPs face in structuring investments for individuals. Some large product managers have developed funds that offer investors intermittent liquidity *(see Figure 4)*. But even these structures pose significant challenges in managing investor expectations. And they create operational burdens not posed by closed-end funds.

In courting the retail market, Blackstone's BREIT fund made no secret of what the rules were around redemptions. The fund's redemption limits of 2% of net asset value per month (5% per quarter) were designed to give individuals enough flexibility to access their principal when needed, despite relative illiquidity of the fund's assets. Amid market jitters in late 2022, however, investors began to ask for their money back, threatening what amounted to a run on the bank. Blackstone had to enforce the redemption limits, raising concerns that the episode would slow down its retail strategy.

BREIT got a huge vote of confidence in January 2023 when the University of California pledged $4 billion to the fund. But the incident still stands as a prime example of how differently individuals view liquidity. Unlike institutional limited partners with virtually unlimited staying power, individuals are used to getting money out when they need it. They also aren't particularly sympathetic to the fund's broader cash flow concerns. This is unfamiliar terrain for fund managers, who can just pick up the phone and call limited partners when problems arise. That isn't possible with a relatively anonymous group of individual investors numbering in the tens or hundreds of thousands.

Figure 4: Alternative managers have developed products across asset classes that provide some level of liquidity to investors

	Examples	Valuation frequency	Repurchase frequency	Early repurchase fee	Repurchase limit
Real estate	BREIT (Blackstone Real Estate Income Trust)	Monthly	Monthly	✓	2% of net asset value monthly 5% of NAV quarterly
	SREIT (Starwood Real Estate Income Trust)	Monthly	Monthly	✓	2% of NAV monthly 5% of NAV quarterly
Alternative credit	BCRED (Blackstone Private Credit Fund)	Monthly	Quarterly	✓	5% of shares or quarterly NAV
	KCOP (KKR Credit Opportunities Portfolio)	Daily	Quarterly	✗	10% of NAV quarterly (up to 25%)
Private equity	CCAF (Constitution Capital Access Fund)	Monthly	Quarterly	✓	5% of NAV quarterly
	Global Value SICAV (Partners Group Global Value SICAV)	Monthly	Monthly	✓	5% of NAV quarterly
Infrastructure	BEP (Brookfield Renewable Partners)	Daily		Daily liquidity (traded on NYSE and TSX)	

Sources: Company websites; SEC filings

Managing the liquidity needs of individual investors will inevitably require more trial and error by GPs. It will also mean building new capabilities in areas wholly unfamiliar (if not anathema) to most private equity firms: public relations, customer service, and traditional forms of marketing to a mass audience. To a large degree, individuals will simply have to learn that investing in relatively illiquid assets necessarily comes with its own set of risks, rewards, and restrictions. But the communication and education challenge this poses for funds—not to mention the investment it involves—can't be underestimated.

"Retail investors need access to liquidity mechanisms if we want to democratize private equity," says Moonfare CEO Steffen Pauls.

One solution may have to come from the development of secondary markets in alternatives that individuals can tap when they need to. Digital players like Securitize and Moonfare are already probing this opportunity with new platforms creating "walled" mechanisms for secondary trading. Securitize, which has worked with a number of PE firms to tokenize fund units, has received SEC approval to act as a transfer agent, allowing it to operate a token exchange. Moonfare runs a formal process twice a year that gives retail investors the chance to trade ownership stakes in alternative asset funds. For investors who want to sell stakes outside of the semiannual process, Moonfare has teamed with Lexington Partners to provide liquidity in certain situations.

"Retail investors need access to liquidity mechanisms if we want to democratize private equity," says Moonfare CEO Steffen Pauls.

Liquidity remains a problem for the industry to solve, but there is plenty of white space to go after in the meantime. Liquidity requirements decrease and sophistication tends to rise as you move up the wealth ladder. That means GPs have the opportunity to pursue high-net-worth individuals with offerings that feature more traditional liquidity constraints. Those investors already participate in the private markets to some degree, and new platforms like Titanbay broaden access. In the meantime, funds and their channel partners will undoubtedly work at a sprint to unstick the liquidity issue.

Implications for fund managers

Despite the growing pains, no one doubts that retail capital is gaining traction and will eventually be an important source of fund-raising for alternative managers. That will have broad implications across the industry.

Figure 5: Alternative asset managers are targeting individual capital using a variety of go-to-market plays, and some are pursuing more than one

	Go direct to UHNW	Win with banks and advisers	Distribute digitally	Partner with traditional managers	Develop customized products	Leverage public vehicles
Segments	Ultra-high-net-worth (UHNW) and family offices ($30M+)	High-net-worth or greater ($1M+)	Mass affluent or greater ($0.1M+)	Mass affluent or greater ($0.1M+)	Mass affluent or greater ($0.1M+)	Mass affluent or greater ($0.1M+)
Structure	Direct invest in fund ("classic LP")	• Feeder funds • Perpetual funds/ nontraded entities	• Feeder funds • Perpetual funds/ nontraded entities	• Feeder funds • Perpetual funds/ nontraded entities • Permanent listed entities	• Feeder funds • Perpetual funds/ nontraded entities • Permanent listed entities	Permanent listed entities
Channel	Direct	• Private banks • Financial advisers	Digital platforms	Asset managers	• Private banks/ financial advisers • Asset managers • Digital platforms	Direct
Investor relations coverage models	• Generalist team • Dedicated UHNW coverage	• Dedicated channel coverage • Marketing and brand building	Marketing and brand building	• Dedicated channel coverage • Marketing and brand building	• Dedicated channel coverage • Marketing and brand building	Marketing and brand building

Source: Bain & Company

While the biggest GPs are generating the most buzz across the retail segment at the moment, firms of all sizes are dipping a toe in with a variety of market plays *(see Figure 5)*. It's too early to identify winners and losers, but the diversity of approaches suggests there is no one-size-fits-all strategy.

In our experience, a strong retail strategy starts with defining a firm's ambition and matching it to both the right customer segment and the most appropriate go-to-market strategy. It's also essential to recognize that cracking the retail market will require skills and capabilities more common to a consumer products company than the average GP—branding, segmented marketing, product development, etc. That demands a clear-eyed assessment of what it will take to win in terms of capability building and operational support.

Market definition requires choices around a number of key considerations:

- **Customer segment.** What's the trade-off between access and market size? A narrow focus on ultra-high-net-worth individuals may be easier to implement, but a broader focus lower down the wealth ladder could open up a larger pool of capital.

- **Product offerings.** Which of our asset classes makes sense based on the customer segment and regulatory considerations? Do we need to develop new fund structures, or will existing ones suffice?

- **Distribution channel.** What's the best way to reach our desired customer? Firms are working through private banks, financial advisers, traditional asset managers, and emerging digital channels. They are also going direct.

- **Coverage model.** What's our approach to marketing and sales? This, too, will depend on the channel, but some firms are standing up dedicated teams to build relationships with banks, advisers, and other intermediaries. Others are focusing on one or more of these channels with existing teams.

GPs of all sizes are pursuing innovative strategies to raise individual capital. A few of the largest, like Blackstone and KKR, have all-in strategies matched to their ambitious AUM growth targets. Both have developed a range of tailored retail products, including publicly traded vehicles. And they have geared up to establish momentum across almost every channel.

Apollo, meanwhile, has announced its ambitious Apollo Aligned Alternatives, which it describes as a "replacement for S&P core equity holdings." It has the potential to be the largest fund on the Apollo platform in 2023. Constitution Capital has launched its Constitution Capital Access Fund, which is available to individuals with lower wealth levels who certify as "qualified clients."

Blue Owl has found success targeting private banks and financial advisers. Its most recent $12.9 billion fund reports that more than 40% of its capital came from individual investors.

Firms are also rapidly adding capabilities to support these efforts. To cover financial advisers, Blackstone has assembled a team of 300 salespeople and created a training program on alternative investments. Ares acquired Black Creek Group's US real estate advisory and distribution business to expand its retail capabilities, while Partners Group built a private wealth unit focused on private banks and financial advisers and has partnered with digital platforms like ADDX.

One reality any retail strategy has to face is that private equity and the broader alternatives industry lack both brand recognition and a clear understanding among many high-net-worth individuals of how the business model works.

One reality any retail strategy has to face is that private equity and the broader alternatives industry lack both brand recognition and a clear understanding among many high-net-worth individuals of how the business model works. Ask a wealthy person who the big names in private equity are and

Figure 6: A survey of wealthy individuals shows that most private capital firms float below the radar in terms of brand identity

Q: Please list up to three firms you are familiar with that provide investments into alternative assets.

Note: Alternative assets defined as real estate (excluding personal residences), private equity (i.e., buyout, growth equity, and venture capital), hedge funds, infrastructure, and private debt
Source: Bain HNWI Survey, December 2022 (n=418)

"I don't know" rises to the top, followed by large financial institutions such as Fidelity and Charles Schwab that barely have any presence in alternatives *(see Figure 6)*.

This suggests that even firms with established relationships among banks and advisers have hardly scratched the surface in terms of brand building. Even tapping the very-high- and high-net-worth segments will take substantial investments in education, innovation, and distribution, and the mass affluent segment is a bridge further still. The more alternative managers move down the wealth ladder, the more they will compete with some of the best-known brands in finance. That will be especially true in the US if regulators provide clear access to 401(k) investors. These retail channels require robust customer service, public relations expertise, communications strategies, and other marketing-related muscles. It will take both resources and time to develop these capabilities.

The clock is ticking

Pursuing individual capital may not be the right approach for every firm. But given the momentum building in the retail market, there is growing urgency for any alternative manager interested in developing a strategy.

While the market is broad, many of the distribution channels are narrow, creating first-mover advantage. Private banking is a good example. This segment, which includes financial institutions like Morgan Stanley and Merrill Lynch, has a high concentration of wealth managed by a small set of banks. Research shows that each bank has room for 5 to 15 funds per asset class, and early entrants are already filling available "shelf space." It's also true that large traditional asset managers are moving into alternatives products through partnerships, acquisitions, and in-house development. Those opportunities won't last forever.

The funds that have already jumped in are still exploring what works in retail, and there's a lot of learning left to do. But they are moving quickly, guided by the conviction that they will need a new and very large pool of capital to fund their growth ambitions. That is forcing the issue for the rest of the industry. The time is now to start making choices about whether to get in the game and how to position your firm to win.

Solving for Private Equity's Inflation Conundrum

High rates mean pressure on multiples—and a new imperative to create value through margin improvement and organic growth.

By Hugh MacArthur, Mike McKay, Karen Harris, and Michael Robbins

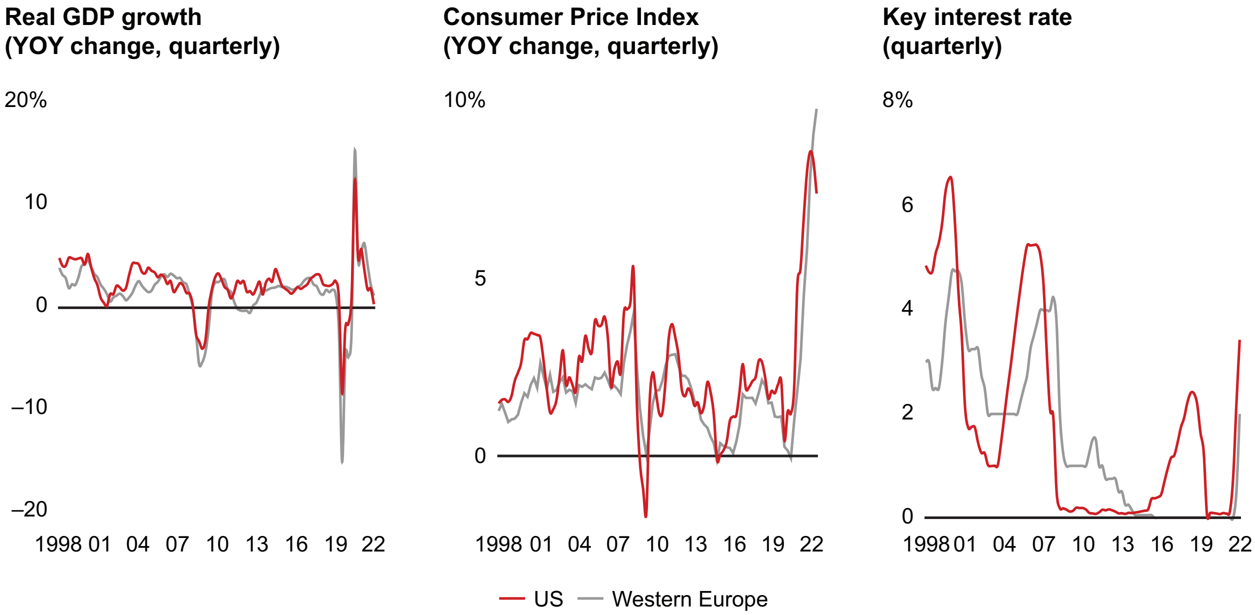
A year ago, as accelerating inflation began to signal the end of the easy money era in global finance, we noted the fundamental quandary this posed for investors: Interest rates and asset prices tend to move in opposite directions. When discount rates fall, asset prices rise and vice versa.

This mechanism dominated the investment world in 2022's second half. After two decades of cashing in on steadily falling interest rates, investors ran into a brick wall when rates reversed course. Rising prices—made worse by the shocks to commodity and energy prices following Russia's invasion of Ukraine—prompted sharp rate increases from central bankers around the world *(see Figure 1)*. The move was most pronounced in the US, where tight labor markets and rising wages threatened to entrench inflation at unacceptably high levels.

As if on cue, equity prices plunged. The S&P 500 finished 19% lower in 2022 while the Nasdaq dropped 33%. Just five stocks—Microsoft, Apple, Alphabet, Meta, and Amazon—together lost almost $3.7 trillion in market value over the course of the year. For private equity investors who have long relied on multiple expansion to drive returns, the rate reversal created a new reality: In the future, returns will rely to a much greater extent on generating revenue and margin improvement—not just buying low and selling high.

Trying to predict the direction of prices or inflation is a fool's errand. But we do know that central banks are in an increasingly uncomfortable position. Aging populations are steadily shrinking the labor force in many countries, limiting economic growth potential unless automation can pick up the slack. Companies are onshoring supply chains to enhance stability but adding cost in the bargain. The situation

Figure 1: Gross domestic product flattened in 2022 while consumer prices and interest rates soared



Notes: GDP and CPI data based on quarterly figures through October 1, 2022; key interest rate data through November 30, 2022; key interest rate based on ECB Main Refinancing Operations Announcement Rate for Western Europe and federal funds effective rate for US; key interest rate data begins in Q4 1998
Sources: IHS Markit; Board of Governors of the Federal Reserve System; Bloomberg; Bain analysis

in most developed countries is defined by a high debt-to-GDP ratio and structural fiscal deficits taken on to support social spending. That forces central banks to "print money" to finance fiscal shortfalls.

All of these factors create inflationary pressures at the very time central bankers are trying to contain inflation. And in the case of national debts, raising rates can worsen the problem. Higher rates mean a higher interest expense on those borrowings, increasing debt burdens. For central banks, the only option is to try to navigate the narrow passage between boosting rates sufficiently to contain inflation but not so much as to crush economic activity or widen deficits.

Economists see three possible outcomes of this balancing act: a hard landing, where aggressive rate hikes trigger a global recession; a soft landing, where central banks hold rates high enough to contain inflation but low enough to keep economic growth alive; and stagflation, where bankers keep rates low enough to preclude an outright recession but too low to contain inflation. The latter outcome would present a 1970s redux—low growth, moderate to high inflation, and a stagnant economy.

Planning amid such uncertainty will clearly be a challenge in 2023 and beyond. But regardless of which scenario plays out, several factors appear certain:

- **Demographics.** Because populations are aging in most developed countries, labor markets will be tighter over the next decade than they were over the past decade, especially at the entry level.

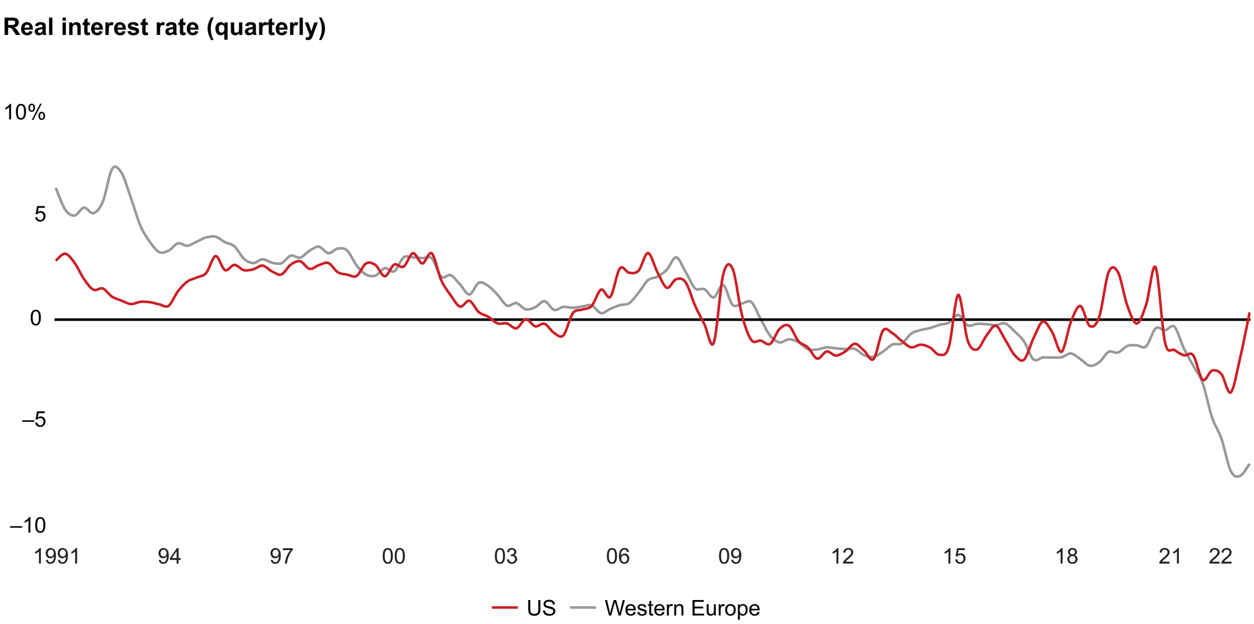
Many companies in labor-intensive industries will have a hard time finding employees, which will lead to either rising wages or higher capital expenditures to fund investments in automation. This could exert particular pressure on labor-intensive sectors like healthcare, although it could also open investment opportunities in companies like Medical Solutions, a travel nurse staffing firm bought by Centerbridge and the Canadian pension fund CDPQ for $2.3 billion in 2021.

- **Government budget pressures.** Businesses with high revenue exposure to government payers (again, think healthcare) may find their budgets under mounting pressure given overall fiscal challenges.

- **Materials costs.** The broad shift to onshoring supply chains may increase input costs for businesses—not a given but certainly something to watch. At the same time, energy expenses may face two sets of pressures: supply constraints in many regions (most notably Europe) and the added cost of investment required to transition away from fossil fuel sources.

- **Interest costs.** The historically unprecedented zero-to-negative interest rate environment has come to an end. Regardless of exactly where rates end up, we can assume that interest rate risk is higher rather than lower. Despite the sharp increases over the past year, rates remain below historical levels *(see Figure 2)*.

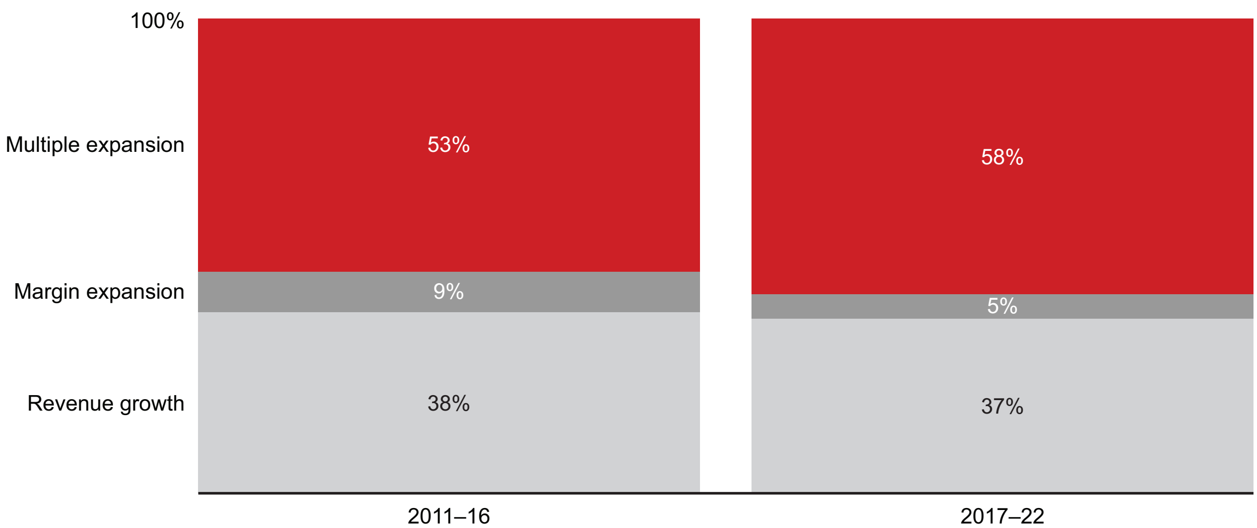
Figure 2: Real interest rates spiked upward in 2022 but are still below historical levels



Notes: As of December 1, 2022; US data based on one-year real interest rate, not seasonally adjusted; Western Europe data based on short-term real interest rate provided by IHS Markit
Sources: Federal Reserve Bank of Cleveland; IHS Markit

Figure 3: Multiple expansion has been the largest driver of buyout returns over the past decade, and its contribution is only growing

Median value creation, by year of exit



Notes: Includes fully realized global buyout deals with more than $50 million in invested capital; excludes deals with missing data; excludes real estate and Infrastructure deals
Source: CEPRES Market Intelligence

Higher rates and inflationary pressures pose a twin threat for general partners. The data is clear: Private equity returns have come largely from multiple expansion in recent years, rather than from revenue and margin growth *(see Figure 3)*. But GPs won't have that luxury moving forward, as higher rates continue to put downward pressure on asset prices. That means returns will increasingly have to come from growth in earnings before interest, taxes, depreciation, and amortization (EBITDA). Yet slowing market expansion and inflationary cost pressures will likely make those gains harder to come by.

Part of winning in this environment will involve finding ways to adjust to these new macro pressures in several key areas:

- **Invest in automation.** Given the demographic issues and rising cost of labor, this is a recipe for long-term success. It will help sustain or improve margins, creating a cost position that will make it easier to profitably gain market share.

- **Invest in supply chain redundancy and security.** This adds cost, but, as we saw during the pandemic, it can also prevent debilitating supply shocks to the business—a critical consideration given geopolitical tensions, weather and climate issues, and the potential for unforeseen events like Covid-19.

- **Manage balance sheet risk.** With interest rates in flux (yet biased toward "higher for longer"), it's more important than ever to lock in favorable rates whenever possible. It is also critical to be cautious of overall leverage. While there's no way of knowing which scenario will unfold, the next 24 months will present the highest risk of a truly hard landing since the global financial crisis. That makes it a dangerous time to go all in on leveraged cyclical assets.

- **Target customer groups and industries with lower price sensitivity.** Which groups in your customer mix are least likely to balk at cost pass-throughs? Think more "private sector" and "affluent," less "commodity."

- **Build your organic growth story.** Outside of emerging technologies, ebbing GDP growth and stagnant-to-declining populations will limit market expansion in many industries. That means growth will have to come at the expense of competition. Strategies to gain share and add addressable markets through adjacency expansion will become the core tools for successful PE investors.

This last point is probably the most underestimated way to drive value at portfolio companies. We'll say it again: The best way to generate differentiated performance in a slow-growth environment is by taking market share from competitors.

For many GPs, this isn't a core competency, and few portfolio company CEOs give it the attention, investment, and resourcing needed to really move the needle. Often, it requires building capabilities in areas like pricing, salesforce optimization, and market definition—the bread-and-butter aspects of business improvement. It is also critical to approach the challenge systematically, creating repeatable processes, not one-off initiatives.

Success will be less about piling on "max leverage" and playing multiple arbitrage and more about improving operating leverage and generating organic growth.

One North American building products distributor is typical of a PE-owned company that for years took advantage of abundant low-cost capital. Growth came from acquiring local distributors, putting them on a common ERP system, and wringing out costs through scale purchasing and facilities consolidation. Eventually, however, the M&A opportunity began to peter out. The company had to find a way to grow organically in those local markets, which called on distributorships to raise their game commercially.

A key insight was defining where the real opportunity lay. An analysis of spending patterns in the market showed the biggest opening was to increase the share of wallet with existing customers.

That's because most building contractors buy materials job to job, with no long-term contracts. They tend to rotate purchases between two to four suppliers to keep them on their toes, but they often favor one of them with the largest share of their business.

Becoming that go-to supplier evolved into the company's singular focus. C-level executives made share gain the definition of success and dedicated sufficient management time and investment to get there. An analysis of where the distributorships were falling short really came down to execution—too often, the primary salesperson was unavailable, and the customer didn't know whom else to call. Orders weren't always complete and on time, or dispute resolution took too long.

To solve these problems, the company took a holistic approach. Using a market analytics tool, it identified its highest-potential customers based on their probable future spending (not just what they spent last year) and then created a team-based system to cover them differentially. It made sure clients knew whom to contact and built redundancy within the team so no calls went unanswered. It drew a clear definition of what on-time delivery meant and devised a no-excuses checklist system to make sure orders were complete. It deployed a roving troubleshooter in the market to resolve the inevitable simple problems on the spot. For bigger ones, the company set up a new way to resolve disputes that prioritized keeping a contractor's job moving and determining fault later.

The internal teams were cross-functional, including someone from every part of the business—sales, delivery drivers, warehousing, management. They met weekly to celebrate success and cocreate solutions. It turned out there was plenty to celebrate; none of it was rocket science, but results took off. In its two pilot markets, the company's market share popped by 1.25 times in the first quarter after implementation, while comparable revenues rose 30%. Now the company is rolling out the team-based system nationally.

The current macro environment presents risks for any business, public or private. Yet, historically, private equity has outperformed the public markets across a broad range of interest rate and economic conditions. Ensuring that continues in this cycle will require a pivot in how most firms generate performance. Success will be less about piling on "max leverage" and playing the multiple arbitrage game. It will be more about improving operating leverage and generating organic growth. The most effective firms are already in motion. They are organizing themselves to boost exit multiples from the inside out by driving real improvements in EBITDA.

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AVCJ *www.avcj.com; avcj-research@avcj.com*

Burgiss *www.burgiss.com; support@burgiss.com*

DealEdge *www.dealedge.com*

Dealogic *www.dealogic.com*

PitchBook *www.pitchbook.com; info@pitchbook.com*

Preqin *www.preqin.com; info@preqin.com*

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Key contacts in Bain's Global Private Equity practice

Chairman, Global Private Equity Hugh MacArthur *(hugh.macarthur@bain.com)*

Head of Global Private Equity Rebecca Burack *(rebecca.burack@bain.com)*

Americas Graham Rose *(graham.rose@bain.com)*

Asia-Pacific Sebastien Lamy *(sebastien.lamy@bain.com)*; Kiki Yang *(kiki.yang@bain.com)*

Europe, Middle East, and Africa Christophe De Vusser *(christophe.devusser@bain.com)*

Reporters and news media

Please direct requests to
Dan Pinkney
dan.pinkney@bain.com
Tel: +1 646 562 8102

For more information, visit **www.bain.com**

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