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2023 US Private Equity Outlook

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2023 outlooks

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Tim ClarkeSenior Analyst, Private Equity tim.clarke@pitchbook.com

Outlook: PE-led take-privates will migrate to the middle markets.

Rationale: Taking public companies private has been a winning PE strategy. PE firms turned to this approach almost out of necessity as funds approached \$30 billion at the extreme upper end. It allowed mega-funds to quickly deploy record amounts of dry powder. Better yet, PE buyers were able to buy public companies at attractive discounts. The 75 PE-led take-privates announced in 2022 were acquired at an average discount of 6.7% to the 52-week high of the target company's shares and averaged \$2.8 billion in deal size. Unsurprisingly, this strategy has become popular among PE firms. As recently as October 2022, eight new take-privates were announced for \$10.1 billion in aggregate value, capping the strongest two-year run in 15 years.

Things came to a screeching halt in November, however. Instead of the usual eight to nine deal announcements, not a single take-private was announced for the month, an almost unprecedented event in the last 17 years. The likely cause: Big buyouts have struggled to find financing, and it appears to have finally caught up with the \$3 billion+ take-private strategy. The S&P 500's 10.1% rebound since mid-October also didn't help matters.

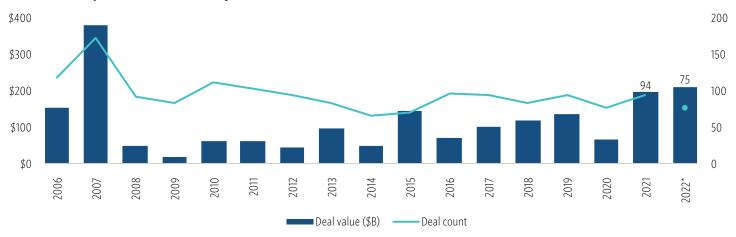
It's unlikely that take-privates will stay dormant, given the strategy's long, uninterrupted history, even during a credit crunch. More likely, the playbook will get tweaked. The logic of buying heavily discounted public companies remains valid, especially given the lack of leverage to augment returns. And while large company stocks may have exited a bear market, a huge swath of middle-market companies is still trapped at deeply depressed levels.

The two-year take-public frenzy that ended earlier in 2022 spawned 952 new listings and \$2.6 trillion in inception value, now down by 45.1%. Most of these listings are from IPOs, but a fair chunk also originated from completed SPAC deals, or de-SPACs. The vast majority of these did not start out as middle-market companies, but they are now: 644 have individual market caps below \$1 billion, or \$164.5 billion in aggregate, down 76.5% from the aggregate inception value of \$698.7 billion. Going forward, these companies will likely populate the ranks of take-privates, and the buyout pendulum will likely swing back in favor of the middle-market segment.

Risks: Take-privates may stay shut across all deal sizes due to a pullback in both nonbank and bank lending for leveraged buyouts (LBOs). Additionally, many of the 664 companies in our screen are not of the seasoning or quality to which PE investors will be attracted—especially de-SPACs, which tend to be pre-revenue companies chasing large addressable markets. Furthermore, large take-privates could rebound strongly should interest rates and federal reserve policy quickly reverse course in a soft landing environment and traditional lenders return to the LBO market.

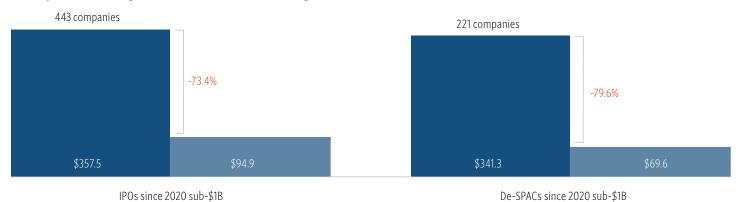


PE-led take-private deal activity



Source: PitchBook | Geography: North America & Europe *As of November 4, 2022

New public listings since 2020 now trading below \$1 billion



■ Inception market value (\$B) ■ Current market value (\$B)

Source: PitchBook | Geography: US *As of December 2, 2022



Andrew Akers, CFASenior Quantitative Analyst andrew.akers@pitchbook.com

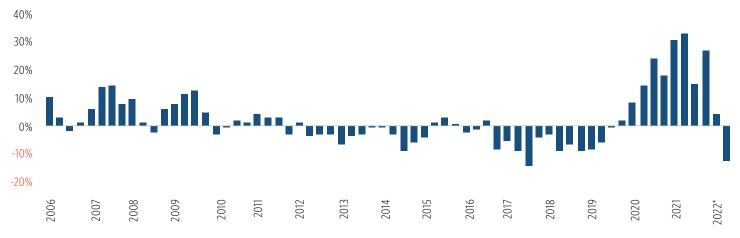
Outlook: Aggregate PE fund returns will underperform public equity benchmarks as private market valuations continue to get marked down.

Rationale: Aggregate PE fund performance following the onset of the COVID-19 pandemic has been remarkably good. After a modest decline of 7.1% in Q2 2020, our US PE fund benchmark has since posted a cumulative gain of 98.0% through Q2 2022. In comparison, the S&P 500 Index returned 51.7% during the same period, and it posted a much steeper decline of 19.6% in Q2 2020. It is well-known that private fund valuations tend to lag what is happening in the public markets, and some markdowns should be expected based on the 15% to 20% declines in major US equity indexes year-to-date. However, based on our PitchBook PE Barometer, which produces an implied quarterly PE fund return from several macro and financial market factor inputs, it appears the recent outperformance has been the most extreme since at least 2000. Periods wherein PE funds have outperformed the implied return from the PE Barometer have typically been followed by periods of underperformance, and vice versa. Further, we found that PE fund performance has been driven almost entirely by net asset value (NAV) markups as opposed to realized returns via distributions. Ignoring cash flows, the average increase in aggregate PE NAV has been 7.9% per quarter over the past nine quarters. Historically, this figure has averaged just 2.5%. Given the deterioration of liquidity for exits, as well as a reset in public market valuations, we think it is unlikely these PE fund markups will ever be fully realized.

Risks: For PE funds to avoid material markdowns, it will require some version of an economic soft landing in 2023 wherein the Federal Reserve is able to pivot back to easing, which will support liquidity and credit conditions. This would allow PE GPs to hold on to assets and weather the storm until the exit environment improves. However, public equities would likely rally in this scenario, so PE funds would have a high hurdle to clear in order to outperform.

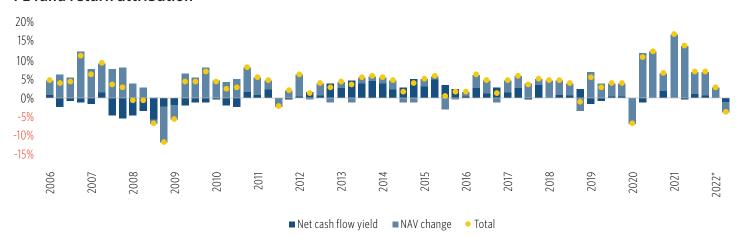


Rolling one-year PE fund performance relative to the implied PE Barometer return



Source: PitchBook | Geography: US *As of June 30, 2022

PE fund return attribution



Source: PitchBook | Geography: US *As of June 30, 2022



Jinny Choi Analyst, Private Equity jinny.choi@pitchbook.com

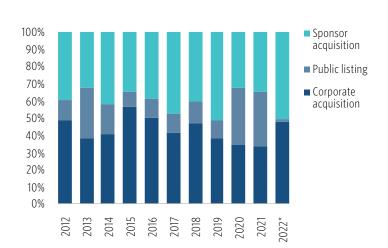
Outlook: Sponsor-to-sponsor exits will take up a record portion of US PE exits.

Rationale: In 2022, PE exit activity fell sharply below the impressive level seen in 2021, as PE firms held on to their investments rather than being forced sellers in an unattractive market environment. Public listings virtually disappeared amid market volatility and declining valuations. As for other exit routes, sales to corporates and other sponsors have remained broadly in line with historic levels. Sponsor-to-sponsor exits have steadily increased over time, accounting for a 61.8% share of all exits on a trailing six-month basis as of Q3 2022. This is a sizable uptick from the 10-year average of 53.1%. Comparing sponsor-to-sponsor exits with corporate exits, the split favors the former in 2022, which is a reversal of trends seen throughout the last 10 years.

The shift in trend will likely continue, and we anticipate sponsor-to-sponsor exits to take up a record portion of US PE exit activity in 2023. The number of PE managers has steadily expanded over the years, while the number of corporate buyers has remained relatively fixed. Furthermore, PE sponsors still have plenty of dry powder to act as a reliable exit route for other GPs, with \$787.5 billion on hand as of Q3. Firms will need to deploy this capital and are likely to find plenty of acquisition targets from other sponsor-backed companies. This source of liquidity will be a key support factor going into 2023 for PE-backed exits. Meanwhile, corporations may become more hesitant to make strategic acquisitions amid recessionary fears and focus instead on protecting their balance sheets, and IPOs are expected to remain stunted for some time.

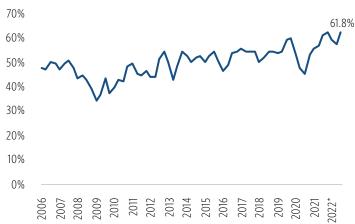
Risks: Although corporations are likely to be less acquisitive in turbulent markets, compelling valuations can prompt them to take up sponsor-backed companies from PE sellers. Sales to corporates remain high, at 47.6% of total US PE exit value. Corporations could also continue to seek acquisitions to position themselves for continued growth or to add recession-resilient businesses.

Share of PE exit value by type



Source: PitchBook | Geography: US *As of September 30, 2022

Rolling six-month sponsor-backed acquisitions as a share of all PE exits



Source: PitchBook | Geography: US *Seasonally adjusted; as of September 30, 2022



Kyle WaltersAssociate Analyst, Private Equity kyle.walters@pitchbook.com

Outlook: The exit-to-investment ratio will reach a more than 15-year low.

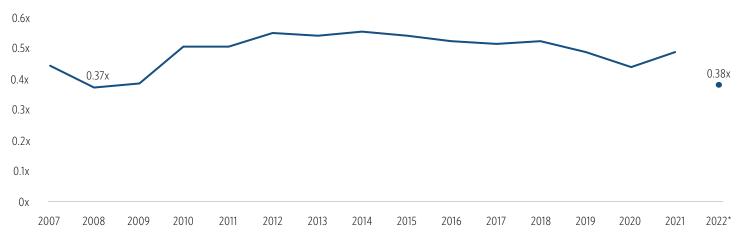
Rationale: As of the end of Q3 2022, the exit-to-investment ratio stood at 0.38x, the lowest figure seen since the Global Financial Crisis. This ratio tracks the number of PE exits in any given period against PE investments, excluding addons. The exit market has been hampered by macro headwinds in 2022, which are likely to persist in 2023. On the investment side, these same factors have weighed down activity as well. However, sellers are less motivated than buyers to lock into lower prices. Meanwhile, many GPs are sitting on record levels of dry powder. As that capital must be put to work, those GPs will continue to make investments, thereby leaving investments at higher levels, causing exits to slump and lowering the exits-to-investments ratio in the new year.

During episodes of price dislocation, it may take an extended period of time for seller expectations to change and align with buyers. Making matters worse, the IPO window is tightly shut, putting even more downward pressure on exits. Even if public markets were to reflate and the IPO window were to reopen, higher interest rates are likely to persist, thus weighing on both buy-side and sell-side activity due to the absence of cheap debt that prevailed in the past. Lastly, exits to corporates have become tougher, as many remain on the sidelines until the risk of a recession fades, preferring instead to shore up their balance sheets and cash reserves. As exit routes are limited, many PE firms will opt to hold on to their investments longer and grow them into their old valuations to compensate for lower deal multiples. This will stretch out the bottom of the ratio's recovery cycle, even if buying volumes were to drop and align more with selling.

Risks: A soft landing in 2023 with a federal funds pivot could allow market headwinds to die down. Additionally, if market dislocation dissolves and pentup demand for IPOs is released, the flood gates for exits through public listings would likely open. A new buildup in PE dry powder could pave the way for more sponsor-to-sponsor exits. On the other hand, an intensification of market headwinds in the form of a full-blown recession could shut down buyer appetite as demand and prices lower and forced selling kicks in as a result.

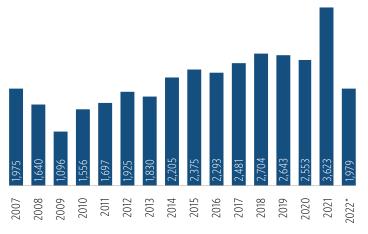


PE exit/investment ratio



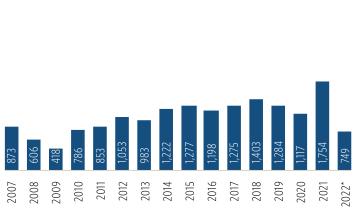
Source: PitchBook | Geography: US *As of September 30, 2022

PE buyout count (excluding add-ons)



Source: PitchBook | Geography: US *As of September 30, 2022

PE exit count



Source: PitchBook | Geography: US *As of September 30, 2022



Rebecca Springer, Ph.D.Senior Analyst, Healthcare rebecca.springer@pitchbook.com

Outlook: US PE investment in skilled care and behavioral health providers will bounce back to a record high of more than 40 deals, excluding add-ons.

Rationale: Skilled care and behavioral health providers include home health and hospice agencies; home-based and ambulatory infusion providers; skilled nursing facilities; providers of treatment for substance use disorders (SUDs) and mental health issues; providers of applied behavioral analysis (ABA); and providers of residential, home, and community-based services for people with intellectual and developmental disabilities. The segment is marked by compelling demand drivers, including an aging population; strong patient preference for in-home care; steadily increasing autism, mental illness, and SUD rates; and growing industry, payer, and patient recognition of the importance of behavioral health in overall patient outcomes and well-being.

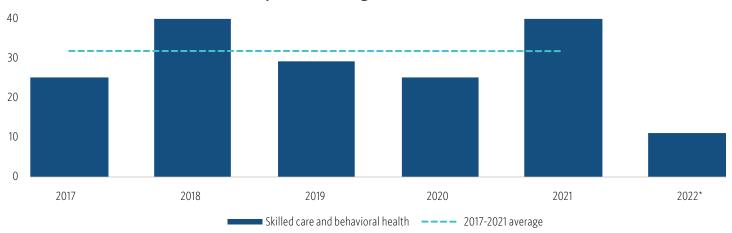
Despite economic uncertainty, we expect PE healthcare services investing to remain healthy in 2023 as firms deploy significant existing dry powder reserves and LPs look to increase their exposure to the recession-resistant industry. Despite staffing costs pressuring margins, the skilled care and behavioral health sector should continue to attract investment as pricing stabilizes after 2021's high. The segment has averaged just under 32 platform and minority equity deals per year from 2017 to 2021, reaching 40 deals in 2018 and 2021.

Numerically, home health/hospice and SUD treatment/mental health deals dominate this dataset. Both categories experienced regulatory and/or reimbursement uncertainties in 2022—the former because of significant rate cuts in the Centers for Medicare & Medicaid Services' (CMS') initial 2023 fee proposal, and the latter due to questions about whether certain COVID-19-related waivers would survive the end of the public health emergency (PHE). We expect that a combination of pent-up demand and at least partial resolution of these questions will enable improved price finding and deal activity resumption in 2023. Many platforms created in the last "wave" of deal activity circa 2018 are due to trade hands. Additionally, the small size of most platforms should shelter the segment from headwinds in the syndicated loan market.

Risks: Staffing costs represent the greatest threat to the sector. If platforms currently in PE hands cannot stabilize at sustainable margins, sponsor-to-sponsor platform trades will continue to stall. Increased macroeconomic turmoil could also slow dealmaking in general. Finally, investors interested in exposure to behavioral health may increasingly turn their attention to digital models—although tele-mental health providers face their own significant regulatory and staffing headwinds.



PE skilled care and behavioral health platform and growth deal count



Source: PitchBook | Geography: US *As of September 30, 2022



Tim Clarke

Senior Analyst, Private Equity tim.clarke@pitchbook.com

Outlook: PE will dip below its historic share of private market fundraising, driven by demand for income over growth by discretionary investors.

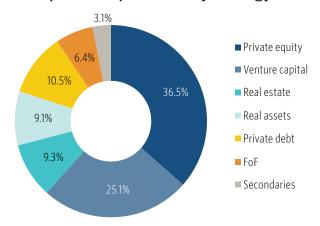
Rationale: The five largest publicly traded alternative asset managers provide useful insights into present and future fundraising trends, especially as the market becomes more top-heavy. Within private equity, for example, the top 35 funds have accounted for 70.3% of all LP capital raised in 2022, up from 40.4% in 2021. More broadly, these five firms have accounted for nearly half of all funds raised over the last 12 months across all major strategies.

In 2022, PE accounted for 38.0% of all global fundraising in private markets, slightly above its 36.5% average over seven years and its 36.2% share of AUM. PE remains the largest private market strategy by a large margin. However, that margin is likely to shrink as the large PE players in particular retool their fundraising machines to focus more on income-oriented strategies and diversify away from growth and PE at least for the time being.

A not-so-hidden agenda behind this shift is to attract nontraditional investors that have more discretion in their portfolio allocation process, including individual investors and family offices. The way into the wealth management market has always been to lead with higher-yielding product, and alternatives have been no exception. The big five PE fund managers set the stage for this many years ago by devising new structures for alternatives that are more retail-friendly—most notably the perpetual capital vehicle, which functions more like open-ended funds without capital calls and includes a limited redemption feature. Most of these perpetual structures wrap around income-oriented products such as real estate, real assets, and credit funds to accommodate retail participation.

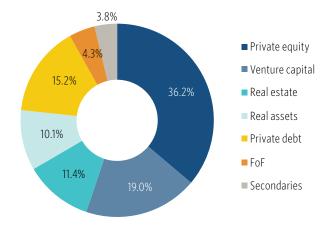
Not all capital raised for these vehicles is from retail. Approximately \$100 billion of Blackstone's \$359 billion in perpetual capital AUM is sourced to institutional investors. Here, too, we could see an uptick in demand to compensate for lean distributions paid on legacy PE investments due to declining exit activity.

Share of private capital AUM by strategy*



Source: PitchBook | Geography: Global *2022 through September 30

Share of private capital capital raised by strategy*



Source: PitchBook | Geography: Global *January 1, 2015 to September 30, 2022



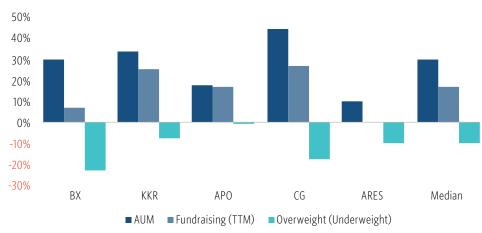
Risks: The primary risk to our outlook is if demand for PE from traditional investors surprises on the upside due to a subsiding denominator effect and/or a return of risk-on conditions for growth investing. Additionally, should retail demand for alternative investments sour due to a significant contraction in the economy and wealth effect, this could lead to reduced inflows to financial assets in general.

Public PE 2021 and 2022 trailing 12-month (TTM) gross inflows (\$B) by select major firm



Source: PitchBook | Geography: US *As of September 1, 2021 and September 30, 2022

TTM public PE fundraising share relative to AUM share by select major firm



Source: PitchBook | Geography: US *As of September 30, 2022



Tim ClarkeSenior Analyst, Private Equity tim.clarke@pitchbook.com

Outlook: Direct lenders will continue to dominate LBO debt markets, eventually giving way to a recovery in bank-led lending later in the year.

Rationale: The LBO has been the main stock and trade of the private equity industry for generating outsized returns to investors. However, it was dealt a serious blow when the Federal Reserve embarked upon one of fastest tightening cycles in more than 40 years. This turned off the spigot of what had become the main vehicle for financing LBOs: the bank-led leveraged loan market. That market was on a tear in 2021, setting a 14-year high for US loan volume backing LBO deals at \$146.0 billion. However, the market came to a virtual standstill in H2 2022, with just \$13.2 billion in US LBO-related volume, down 80.2% YoY.

Stepping in to fill the void have been nonbank "direct" lenders that have spent the last several years amassing capital in the form of business development companies and private debt funds. Many of these involve the same sponsors that are leading the charge on the equity side of the LBO capital structure. These funds have become the sole debt providers to new LBOs; meanwhile, banks are busy offloading old loans, or the so-called "hung" deals, before making any new commitments.

This can be best seen in the flow of large LBOs of public companies. Of the 26 take-privates announced in the US and Europe since early June 2022, not a single one has been funded by banks; they are relying instead on private debt funds or all-equity structures.

In early 2023, private debt funds will likely continue to dominate as lenders of last resort to the LBO market. Upward of \$42.0 billion from hung deals is reported to be on bank balance sheets, and we estimate that another \$22.0 billion in old commitments remains on deals still pending. Banks will likely gradually return to underwriting new LBO loans late in 2023 as the backlog clears and the leveraged loan market becomes more liquid—but not before ceding significant share to direct lenders.

Risks: If credit defaults were to significantly accelerate from their very low levels, this could keep institutional investors on the sidelines amid concerns of loose covenants, thereby resulting in a prolonged slump in bank syndicated loans. Additionally, if direct lenders were forced to take negative marks on their investment holdings due to a hard landing in the economy and/or negative credit cycle, this may curtail investor appetite and LBO lending activity as well.



Announced public-to-private deals (June 2022 to present)*

December 12 Coupa Thoma Bravo Private debt \$6,150.4 Announced US October 27 UserTesting Sunstone Partners, Thoma Bravo Equity only \$1,300.0 Announced US October 24 Weber Inc. BDT & Company Private debt \$22.2 Announced US October 24 Agrofresh Solutions Paine Schwartz Partners Nonbank \$158.1 Announced US October 12 KnowBe4 Vista Equity Partners Private debt \$4,600.0 Announced US October 12 KnowBe4 Vista Equity Partners Private debt \$4,600.0 Announced US October 11 ForgeRoock Thoma Bravo Equity only \$2,300.0 Announced US September 26 Sencon Rados Group Nonbank \$262.4 Completed US September 26 Sencon Rados Group Nonbank \$1,594.8 Completed US August 20 Computer Services Bridgeport Partners, Centerbridge Nonbank <	Announced date (2022)	Company	Acquirer(s)	Loan type	Deal value (\$M)*	Deal status	Country
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September 4 ChannelAdvisor CommerceHub, Insight Partners Private debt \$725.0 Completed US August 20 Computer Services Bridgeport Partners, Centerbridge Nonbank \$1,594.8 Completed US August 16 Ted Baker Authentic Brands, Blackstone, CVC Nonbank \$234.6 Completed UK August 8 Avalara Vista Equity Partners Private debt \$8,400.0 Completed US August 4 Atlas Air Worldwide Apollo Global Management Private debt \$2,909.3 Announced US August 2 Ping Identity Thoma Bravo Private debt \$2,800.0 Completed US July 25 Bobst Group JBF Finance Nonbank \$1,330.4 Completed Switzerland July 21 Hanger Patient Square Capital Private debt \$1,250.0 Completed US July 12 Sharps Compliance Aurora Capital Partners Private debt \$170.0 Completed US July 10 Prima Industrie Alpha Associates, Peninsula Investments Nonbank \$134.9 Announced Italy July 10 Oncodesign Services Edmond de Rothschild Group Nonbank \$102.0 Completed France June 28 Cary Group CVC, Nordic Capital Private debt \$824.1 Completed Sweden June 27 CareTech Holdings DBAY Advisors Nonbank \$993.6 Completed US June 28 Radius Health Gurnet Point Capital, Patient Square Private debt \$10,200.0 Completed US June 29 Euromoney Institutional Investor Astorg, Epiris Private debt \$1,990.7 Completed US June 20 Momentum Software Group Aareon, Advent International Nonbank \$178.2 Completed Sweden	September 28	Billtrust	EQT AB	Private debt	\$1,700.0	Announced	US
August 20 Computer Services Bridgeport Partners, Centerbridge Nonbank \$1,594.8 Completed US August 16 Ted Baker Authentic Brands, Blackstone, CVC Nonbank \$234.6 Completed UK August 8 Avalara Vista Equity Partners Private debt \$8,400.0 Completed US August 4 Atlas Air Worldwide Apollo Global Management Private debt \$2,909.3 Announced US August 2 Ping Identity Thoma Bravo Private debt \$2,800.0 Completed US July 25 Bobst Group JBF Finance Nonbank \$1,330.4 Completed US July 21 Hanger Patient Square Capital Private debt \$1,250.0 Completed US July 12 Sharps Compliance Aurora Capital Partners Private debt \$170.0 Completed US July 10 Prima Industrie Alpha Associates, Peninsula Investments Nonbank \$134.9 Announced Italy July 10 Oncodesign Services Edmond de Rothschild Group Nonbank \$102.0 Completed France June 28 Cary Group CVC, Nordic Capital Private debt \$824.1 Completed Sweden June 27 CareTech Holdings DBAY Advisors Nonbank \$993.6 Completed US June 24 Zendesk ADIA, GIC, H&F, Permira Private debt \$10,200.0 Completed US June 29 Radius Health Gurnet Point Capital, Patient Square Private debt \$890.0 Completed US June 20 Momentum Software Group Aareon, Advent International Nonbank \$178.2 Completed Sweden	September 26	Semcon	Ratos Group	Nonbank	\$262.4	Completed	Sweden
August 16 Ted Baker Authentic Brands, Blackstone, CVC Nonbank \$234.6 Completed UK August 8 Avalara Vista Equity Partners Private debt \$8,400.0 Completed US August 4 Atlas Air Worldwide Apollo Global Management Private debt \$2,909.3 Announced US August 2 Ping Identity Thoma Bravo Private debt \$2,800.0 Completed US July 25 Bobst Group JBF Finance Nonbank \$1,330.4 Completed Switzerland July 21 Hanger Patient Square Capital Private debt \$1,250.0 Completed US July 12 Sharps Compliance Aurora Capital Partners Private debt \$170.0 Completed US July 10 Prima Industrie Alpha Associates, Peninsula Investments Nonbank \$134.9 Announced Italy July 10 Oncodesign Services Edmond de Rothschild Group Nonbank \$102.0 Completed France June 28 Cary Group CVC, Nordic Capital Private debt \$824.1 Completed Sweden June 27 CareTech Holdings DBAY Advisors Nonbank \$993.6 Completed US June 24 Zendesk ADIA, GIC, H&F, Permira Private debt \$890.0 Completed US June 23 Radius Health Gurnet Point Capital, Patient Square Private debt \$1,990.7 Completed US June 20 Euromoney Institutional Investor Astorg, Epiris Private debt \$1,990.7 Completed Sweden	September 4	ChannelAdvisor	CommerceHub, Insight Partners	Private debt	\$725.0	Completed	US
August 8 Avalara Vista Equity Partners Private debt \$8,400.0 Completed US August 4 Atlas Air Worldwide Apollo Global Management Private debt \$2,909.3 Announced US August 2 Ping Identity Thoma Bravo Private debt \$2,800.0 Completed US July 25 Bobst Group JBF Finance Nonbank \$1,330.4 Completed Switzerland July 21 Hanger Patient Square Capital Private debt \$1,250.0 Completed US July 12 Sharps Compliance Aurora Capital Partners Private debt \$170.0 Completed US July 10 Prima Industrie Alpha Associates, Peninsula Investments Nonbank \$134.9 Announced Italy July 10 Oncodesign Services Edmond de Rothschild Group Nonbank \$102.0 Completed France June 28 Cary Group CVC, Nordic Capital Private debt \$824.1 Completed Sweden June 27 CareTech Holdings DBAY Advisors Nonbank \$993.6 Completed UK June 24 Zendesk ADIA, GIC, H&F, Permira Private debt \$10,200.0 Completed US June 23 Radius Health Gurnet Point Capital, Patient Square Private debt \$890.0 Completed US June 20 Euromoney Institutional Investor Astorg, Epiris Private debt \$1,990.7 Completed UK June 20 Momentum Software Group Aareon, Advent International Nonbank \$178.2 Completed Sweden	August 20	Computer Services	Bridgeport Partners, Centerbridge	Nonbank	\$1,594.8	Completed	US
August 4Atlas Air WorldwideApollo Global ManagementPrivate debt\$2,909.3AnnouncedUSAugust 2Ping IdentityThoma BravoPrivate debt\$2,800.0CompletedUSJuly 25Bobst GroupJBF FinanceNonbank\$1,330.4CompletedSwitzerlandJuly 21HangerPatient Square CapitalPrivate debt\$1,250.0CompletedUSJuly 12Sharps ComplianceAurora Capital PartnersPrivate debt\$170.0CompletedUSJuly 10Prima IndustrieAlpha Associates, Peninsula InvestmentsNonbank\$134.9AnnouncedItalyJuly 10Oncodesign ServicesEdmond de Rothschild GroupNonbank\$102.0CompletedFranceJune 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	August 16	Ted Baker	Authentic Brands, Blackstone, CVC	Nonbank	\$234.6	Completed	UK
August 2 Ping Identity Thoma Bravo Private debt \$2,800.0 Completed US July 25 Bobst Group JBF Finance Nonbank \$1,330.4 Completed Switzerland July 21 Hanger Patient Square Capital Private debt \$1,250.0 Completed US July 12 Sharps Compliance Aurora Capital Partners Private debt \$170.0 Completed US July 10 Prima Industrie Alpha Associates, Peninsula Investments Nonbank \$134.9 Announced Italy July 10 Oncodesign Services Edmond de Rothschild Group Nonbank \$102.0 Completed France June 28 Cary Group CVC, Nordic Capital Private debt \$824.1 Completed Sweden June 27 CareTech Holdings DBAY Advisors Nonbank \$993.6 Completed UK June 24 Zendesk ADIA, GIC, H&F, Permira Private debt \$10,200.0 Completed US June 23 Radius Health Gurnet Point Capital, Patient Square Private debt \$890.0 Completed US June 20 Euromoney Institutional Investor Astorg, Epiris Private debt \$1,990.7 Completed UK June 20 Momentum Software Group Aareon, Advent International Nonbank \$178.2 Completed Sweden	August 8	Avalara	Vista Equity Partners	Private debt	\$8,400.0	Completed	US
July 25Bobst GroupJBF FinanceNonbank\$1,330.4CompletedSwitzerlandJuly 21HangerPatient Square CapitalPrivate debt\$1,250.0CompletedUSJuly 12Sharps ComplianceAurora Capital PartnersPrivate debt\$170.0CompletedUSJuly 10Prima IndustrieAlpha Associates, Peninsula InvestmentsNonbank\$134.9AnnouncedItalyJuly 10Oncodesign ServicesEdmond de Rothschild GroupNonbank\$102.0CompletedFranceJune 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	August 4	Atlas Air Worldwide	Apollo Global Management	Private debt	\$2,909.3	Announced	US
July 21HangerPatient Square CapitalPrivate debt\$1,250.0CompletedUSJuly 12Sharps ComplianceAurora Capital PartnersPrivate debt\$170.0CompletedUSJuly 10Prima IndustrieAlpha Associates, Peninsula InvestmentsNonbank\$134.9AnnouncedItalyJuly 10Oncodesign ServicesEdmond de Rothschild GroupNonbank\$102.0CompletedFranceJune 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	August 2	Ping Identity	Thoma Bravo	Private debt	\$2,800.0	Completed	US
July 12Sharps ComplianceAurora Capital PartnersPrivate debt\$170.0CompletedUSJuly 10Prima IndustrieAlpha Associates, Peninsula InvestmentsNonbank\$134.9AnnouncedItalyJuly 10Oncodesign ServicesEdmond de Rothschild GroupNonbank\$102.0CompletedFranceJune 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	July 25	Bobst Group	JBF Finance	Nonbank	\$1,330.4	Completed	Switzerland
July 10Prima IndustrieAlpha Associates, Peninsula InvestmentsNonbank\$134.9AnnouncedItalyJuly 10Oncodesign ServicesEdmond de Rothschild GroupNonbank\$102.0CompletedFranceJune 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	July 21	Hanger	Patient Square Capital	Private debt	\$1,250.0	Completed	US
July 10Oncodesign ServicesEdmond de Rothschild GroupNonbank\$102.0CompletedFranceJune 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	July 12	Sharps Compliance	Aurora Capital Partners	Private debt	\$170.0	Completed	US
June 28Cary GroupCVC, Nordic CapitalPrivate debt\$824.1CompletedSwedenJune 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	July 10	Prima Industrie	Alpha Associates, Peninsula Investments	Nonbank	\$134.9	Announced	Italy
June 27CareTech HoldingsDBAY AdvisorsNonbank\$993.6CompletedUKJune 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	July 10	Oncodesign Services	Edmond de Rothschild Group	Nonbank	\$102.0	Completed	France
June 24ZendeskADIA, GIC, H&F, PermiraPrivate debt\$10,200.0CompletedUSJune 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	June 28	Cary Group	CVC, Nordic Capital	Private debt	\$824.1	Completed	Sweden
June 23Radius HealthGurnet Point Capital, Patient SquarePrivate debt\$890.0CompletedUSJune 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	June 27	CareTech Holdings	DBAY Advisors	Nonbank	\$993.6	Completed	UK
June 20Euromoney Institutional InvestorAstorg, EpirisPrivate debt\$1,990.7CompletedUKJune 20Momentum Software GroupAareon, Advent InternationalNonbank\$178.2CompletedSweden	June 24	Zendesk	ADIA, GIC, H&F, Permira	Private debt	\$10,200.0	Completed	US
June 20 Momentum Software Group Aareon, Advent International Nonbank \$178.2 Completed Sweden	June 23	Radius Health	Gurnet Point Capital, Patient Square	Private debt	\$890.0	Completed	US
	June 20	Euromoney Institutional Investor	Astorg, Epiris	Private debt	\$1,990.7	Completed	UK
June 13 The Go-Ahead Group Kinetic Group Nonbank \$751.1 Completed UK	June 20	Momentum Software Group	Aareon, Advent International	Nonbank	\$178.2	Completed	Sweden
	June 13	The Go-Ahead Group	Kinetic Group	Nonbank	\$751.1	Completed	UK

Source: PitchBook | Geography: North America & Europe *As of November 4, 2022

 $Note: This\ table\ includes\ only\ deals\ of\ \$100\ million\ or\ more.\ "Nonbank"\ indicates\ deals\ using\ private\ debt\ or\ all-equity\ structures\ or\ those\ not\ broadly\ syndicated\ by\ banks.$

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