



SAPPHIRE

The State of the SaaS Capital Markets: A Look Back at 2023 and Look Forward to 2024

Predictions on the Trends Shaping the SaaS Industry

January 2024

Table of Contents

1 [2024 Predictions](#)

2 [Private Markets](#)

3 [Public Markets](#)

4 [Exits: IPOs & M&A](#)

5 [Appendix](#)

A Note on Report Methodology

At Sapphire, we are specialized software investors. In this report, our goal is to **provide our perspective and beliefs on both private and public Enterprise Software capital markets**. While many reports cover tech more broadly, we believe our focus may be valuable to software entrepreneurs and ecosystem participants.

In this regard, we wanted to provide a high-level overview of our methodologies for selecting the companies and deals that are included in our analyses:

- Private Markets:

- Venture Capital funding data includes all VC deals with a disclosed transaction size, excluding companies headquartered in China and Hong Kong.
- Filters for “Enterprise Software” were developed internally. While many of the companies have “pure” software offerings, others include a mix of services or hardware (but with software predominant).

- Public Markets:

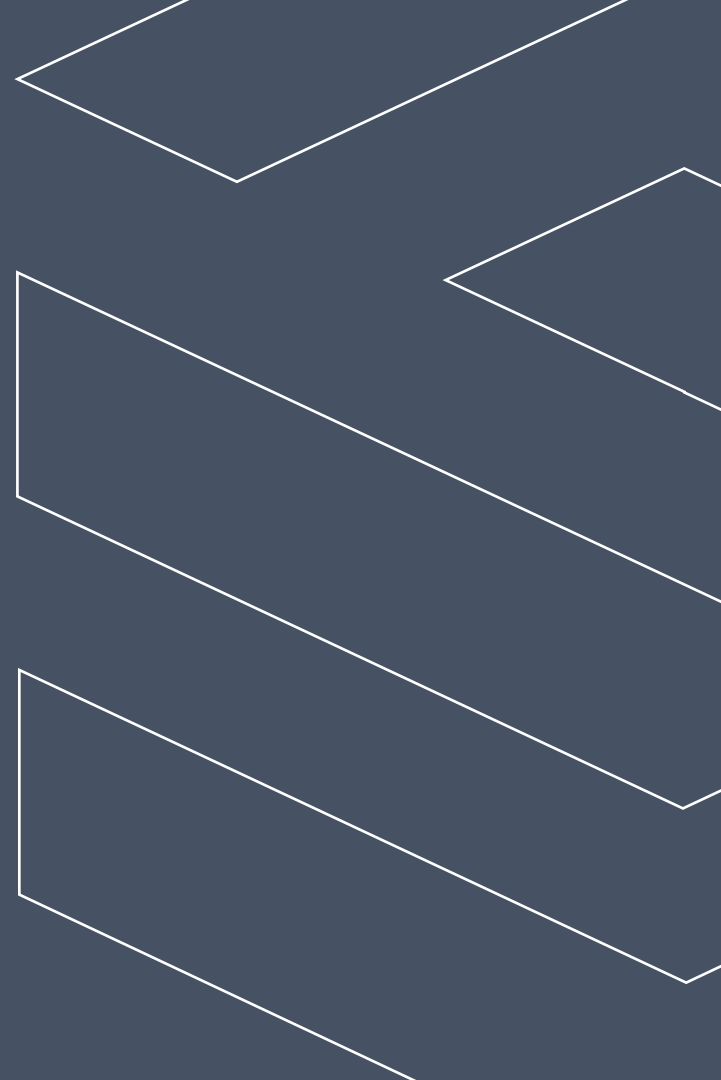
- Public market benchmarking leverages a list of 132 Sapphire-selected software companies that we believe embodies the broader Enterprise Software market. We update the list semi-annually to ensure relevance and to account for IPOs, M&A and private equity take-privates. All historical data uses the same list of 132 currently public companies, beginning in the year they became publicly-listed.
- As this report is being published in early 2024 and many companies have not reported 2023 year-end performance, all NTM figures include 4Q 2023, while LTM figures represent 4Q 2022 – 3Q 2023. Additionally, all CY2023 “actuals” use mean broker estimates for Q4 2023 as of Dec. 31, 2023, as we believe that at that point analysts have a strong line of sight on year-end numbers.

- Predictions:

- Our predictions for 2024 are data-driven and our beliefs are based on the trends that we observed in 2023 data.

SAPPHIRE

I. 2024 Predictions



Our Top 10 Predictions for 2024

1 VC funding will grow incrementally

2 We will return to a “growth mindset” in software...

3 ...but not to “growth at all costs” as we enter a second “Year of Efficiency”

4 Flat and down rounds will continue to rise

5 We are finally past “peak unicorn”

6 Funding for Generative AI will continue at a strong pace, but investors will be more discerning

7 Public software revenue multiples will continue to expand incrementally

8 In M&A, deal volume will pick up with small-to-medium sized deals in the starring role...

9 ...and private-to-private M&A will increase as stronger players consolidate positions

10 Software IPOs will become a thing again – but the real action happens in 2025

Our Top 10 Predictions for 2024

1 VC funding will grow incrementally

2023 marked a [second consecutive yearly decline in VC funding \(-36% YoY\)](#) and at \$287B (ex-China/HK), it was roughly flat with 2020. In 2024, we expect total funding to end its slide and grow back into the pre-pandemic trendline (i.e., +5-10% overall growth) as [investors with ample dry powder](#) incrementally increase deal velocity. While we believe Enterprise Software will be a big driver of total investment in 2024, we believe it will stay relatively flat to its 44% level from 2023, before resuming gains through the middle of the decade.

2 We will return to a "growth mindset" in software...

[After two years of declining growth rates across the SaaS universe](#), we believe growth will inflect upward in 2024 as (1) economic conditions prove resilient and (2) AI begins to reach the initial deployment stage. While the painful cuts many companies made in 2023 were potentially necessary for the long-term (and are likely still not done), company leaders and investors alike will recognize that growth can solve many of a company's remaining challenges and will embrace them playing more offense throughout the year.

3 ...but not to "growth at all costs" as we enter a second "Year of Efficiency"

While offense will be rewarded, a return to the "growth at all costs" mindset of 2021 will not, as [unit economics and "Efficient Growth" remain in focus in 2024](#) (so long as the TAM is large and growth is sustainable). As mentioned above, we expect to hear about more cost-cutting at both public and private software companies as leaders use both traditional methods (e.g., headcount reductions, office consolidation) and emerging technologies (e.g., AI-driven automations) to reduce burn rates and, in the private markets, create or shorten paths to profitability.

4 Flat and down rounds will continue to rise

[2023 saw flat + down rounds spike to ~25% of deals](#), bringing them in line with the 20-year average excluding the post dot-com (63% average from 2001-2003) and post GFC (58%) peaks. While we don't anticipate reaching those crisis-era levels in 2024, we expect the up-trend to continue as the industry collectively works through pandemic-era valuation excesses. More flat and down rounds is not a bad thing – but rather a sign of a normalizing market and long-term optimism to invest in the innovation economy!

Our Top 10 Predictions for 2024

5 We are finally past “peak unicorn” (although, sadly, the term is here to stay)

Aileen Lee’s “[unicorn](#)” moniker turned 10 years old in 2023 and brought with it [the slowest rate of new unicorn creation since pre-2018](#). The 29 newly minted software unicorns of 2023 represent an 88% decline from 2021’s peak and, we believe, evidence of a transition past “peak unicorn.” While exact numbers are difficult to track, we have also recently seen [several notable failures of existing unicorns](#), a trend we believe is just starting. In 2024 and 2025, we expect that (1) many existing unicorns will face challenges maintaining their current valuations and (2) investors will continue practicing more valuation discipline, which will set the stage for a potential net decrease in total unicorns. Maybe this will give us an excuse to start talking about what is truly rare in the private markets: \$1B ARR companies or, rarer still, \$1B cash flow companies.

6 Funding for Generative AI will continue at a strong pace, but investors will be more discerning

Gen AI was the dominant investment theme during 2023 and [was one of the very few areas to see an increase in funding during the year](#) (+271% by our calculation). It may be cliché at this point to say it is “still so early,” but it is also true, and we expect investor appetite for companies both building and integrating Gen AI to remain strong in 2024. Exceeding 2023 levels will be difficult, but we believe achievable as we expect (1) [to see more growth at the MLOps and Apps layers](#), (2) leading foundational model players will want to extend their leads and raise ahead of training next-generation models and (3) at-scale deployment of enterprise use cases will pick up in 2H 2024. That said, we are also likely to see more companies face challenges (e.g., down rounds or company failures), and more separation between companies achieving true product/market fit and those that lack differentiation in a space that was marked by super premium valuations in 2023.

7 Public software revenue multiples will continue to expand incrementally

Despite rebounding strongly in 2023 (+26% YoY), [software valuation multiples remain slightly below their 10-year historical average](#). While we don’t see another 25%+ expansion, we believe multiples will expand incrementally, likely breaking to the upside of the long-term average, as (1) growth rates inflect higher, (2) companies strengthen their profitability, (3) the Fed begins to lower interest rates and (4) we enter the back half of an election year in the United States.

Our Top 10 Predictions for 2024

8 In M&A, deal volume will pick up with small-to-medium-sized deals in the starring role...

Enterprise Software M&A fell for a second consecutive year in 2023, [closing the year at ~\\$260B in deal value across 511 completed transactions](#). Despite the decline, 2023 was still the fourth highest total, from a value perspective, of the past decade – far from a depressed deal-making market. [In Q4, we observed what we believe will be a strong trend heading into 2024](#), which is a much higher velocity of small-to-midsize deal-making activity as strategics and PE firms tap their strong cash reserves and increasingly take advantage of an environment where VC is more selective. We believe regulatory scrutiny and election overhang limits potential for blockbuster deal-making in 2024 but expect a very active market in sub-\$3B transactions.

9 ...and private-to-private M&A will increase as stronger players consolidate positions

Once considered unnecessary, given the abundance of available capital and high rates of organic growth, and/or too difficult from an execution perspective, private-to-private M&A deal activity will increase significantly in 2024 as strong private companies look to consolidate their positions, add scale (to gain efficiency and [reach a higher IPO bar](#)) and improve NDR with new land and up-sell opportunities. VCs and other stakeholders who would have resisted being acquired by another private company in the past will welcome the opportunity to roll their stakes into larger, more successful private companies that can ultimately go public or command an M&A premium at exit.

10 Software IPOs will become a thing again – but the real action happens in 2025

After an almost complete [two-year drought](#), many software companies have finally reached the [new higher bar for IPO exit scale](#) (\$300-400M+ revenue levels vs. \$200-250M in ZIRP days) and have a sightline to near-term profitability. While we expect some larger deals to seed the market in 1H 2024 and gauge investor appetite, momentum will accelerate in the second half of the year, with the real deluge of software IPOs hitting in 2025, including underwriters testing the viability of smaller cap software players.

SAPPHIRE

II. Private Markets



What Happened with Private Market Enterprise Software in 2023

- Total global VC funding (ex-China/HK), was down again, but we view this as normalizing following the pandemic and ZIRP-era excess as 2023's \$287B in VC funding is the third highest total ever (2x the 2014-2017 average)
- Enterprise Software reached 44% of total funding on the strength of long-term (e.g., Cloud, digital transformation) and emerging (e.g., Gen AI) trends
- Generative AI was the dominant theme (+271% in investment YoY), but was highly concentrated and still only accounted for ~10% of total VC funding
- Median round sizes and valuations came off cycle highs, but remain well above long-term averages
- Down rounds increased materially, but still have room to run to reach previous peaks
- The number of newly minted Enterprise Software unicorns, number of \$100M+ “mega-rounds” and average secondary market valuations were way down
- Investors significantly slowed down their pace of deployment...
- ...pushed into the earlier stages...
- ...or sat out/left the market altogether
- And “dry powder” hit another record high

Private Markets in 2023: By the Numbers

\$287B

Total VC investment
(ex-China/HK) in 2023

44%

Proportion of total VC
funding going to Enterprise
Software companies
(\$125B in total)

271%

Increase in VC funding for
Gen AI YoY, though 63%
went to just 5 companies

25%

Percentage of flat +
down rounds – up from 13%
in 2022, but still below
10-year average

29

Number of New Enterprise
Software unicorns minted
in 2023 – the lowest total
since 2017

369

of Enterprise Software
unicorns that have not
raised money in the
last 18 months

41%

Average secondary market
discount relative to last
valuation

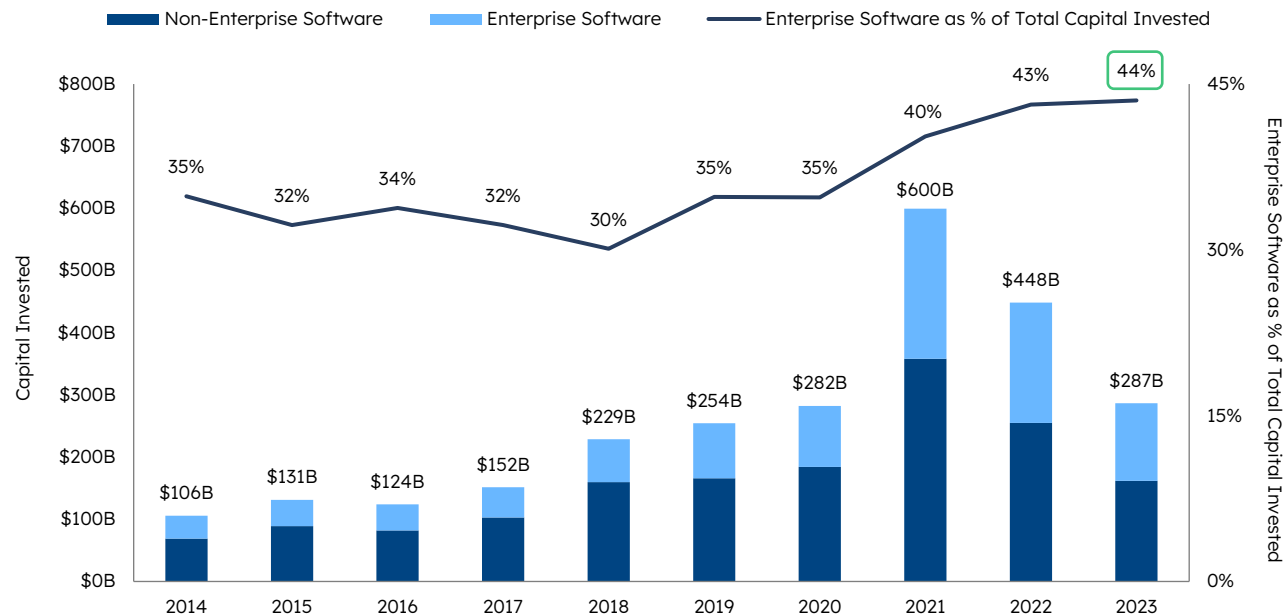
\$2.2T

Total PE and VC “dry
powder” heading into 2024

Overall VC activity declined for a second consecutive year; Enterprise Software continues to grow as a % of capital invested

Total VC Capital Investment and Total Enterprise Software Capital Investment

Global (ex-China/HK), 2014 – 2023

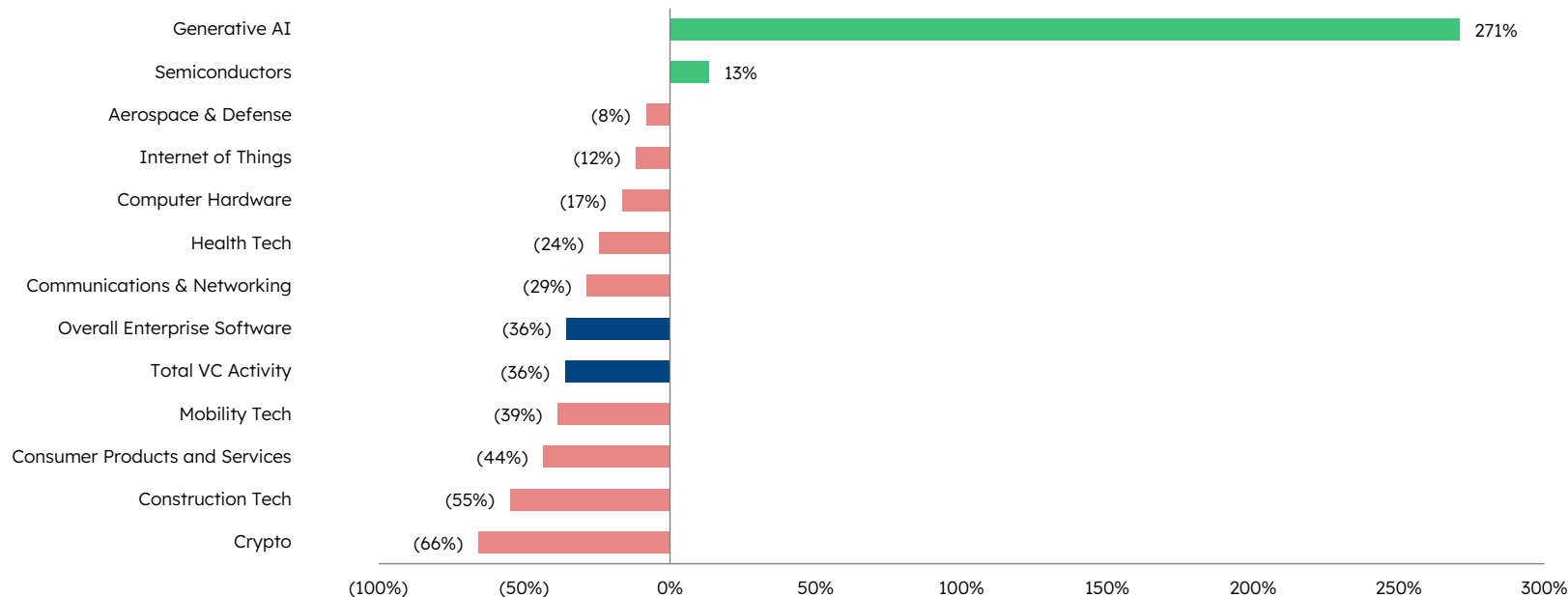


- Total VC investment in 2023 came in level with 2020's total, declining 36% YoY and 52% from 2021 peak
- Despite another down year the asset class remains at a level **>2x the annual average from 2014-2017**
- **Enterprise Software is now the dominant VC sector**, reaching another all-time high in 2023 (44% dollar share and 31% deal share)

Some categories and themes held up better than the broad market, led by Generative AI's 271% increase in YoY funding

% Change in VC Funding by Category, 2022 vs. 2023

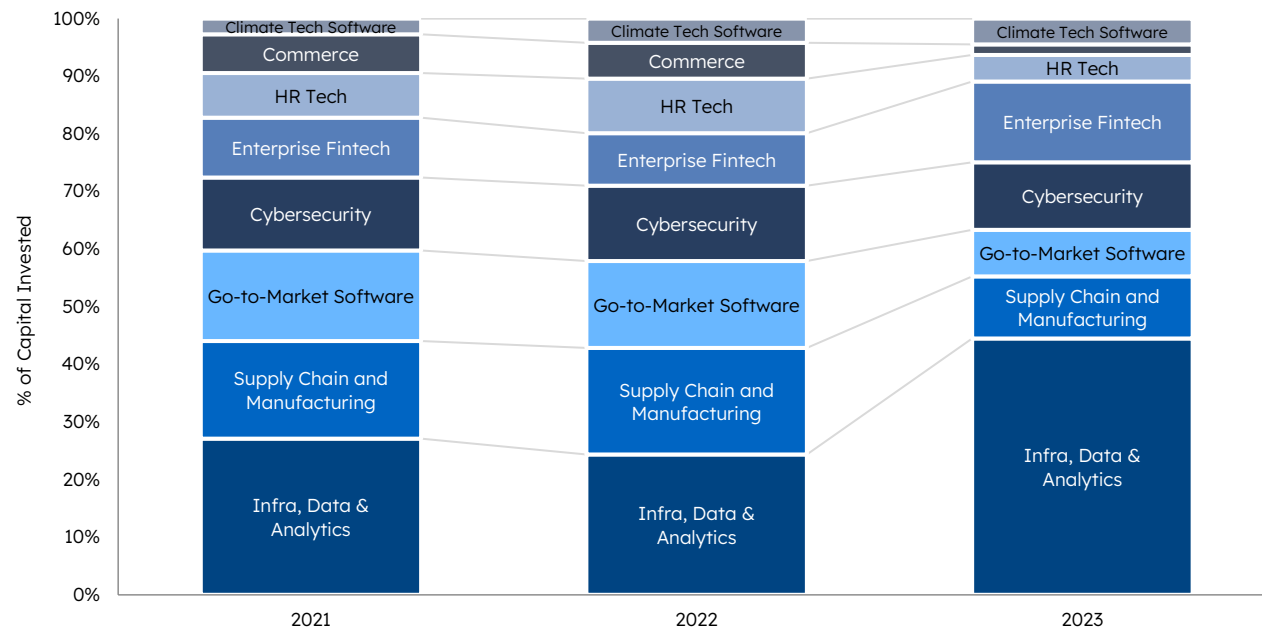
Global (ex-China/HK), 2023



Relative share of investment within Enterprise Software: Infra, Data & Analytics stands out on Gen AI strength

Percent of VC Dollars to Key Enterprise Software Categories

Global (ex-China/HK), 2021 – 2023

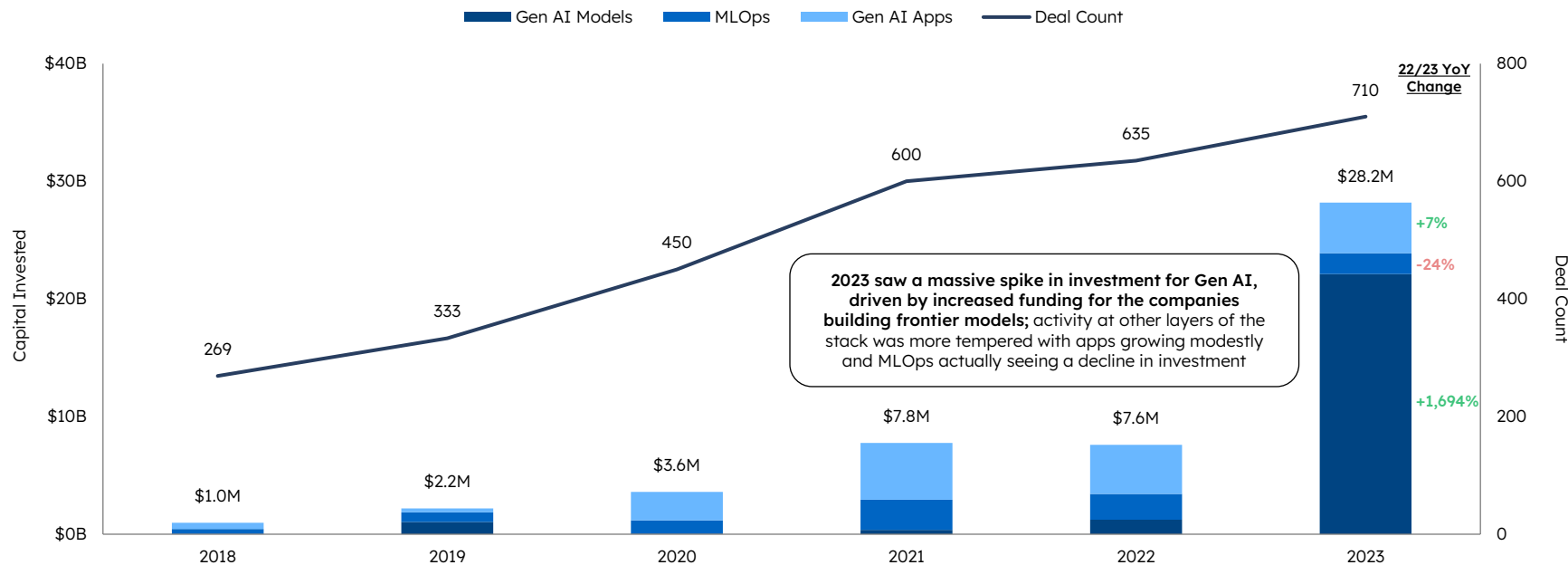


- Relative share **within Enterprise Software** tracks with some of the dominant themes of the past several years, (e.g., Infra, Data & Analytics gaining as Gen AI took off in 2023, while Supply Chain and Manufacturing retreated following pandemic gains, and GTM Software lost ground during the so-called “Year of Efficiency”)
- Notably, Cybersecurity did not gain material share despite attention and public market sub-sector outperformance

Generative AI funding increased nearly 4x YoY in 2023 with \$28B invested over 700+ deals...

Generative AI VC Investments by Product Layer

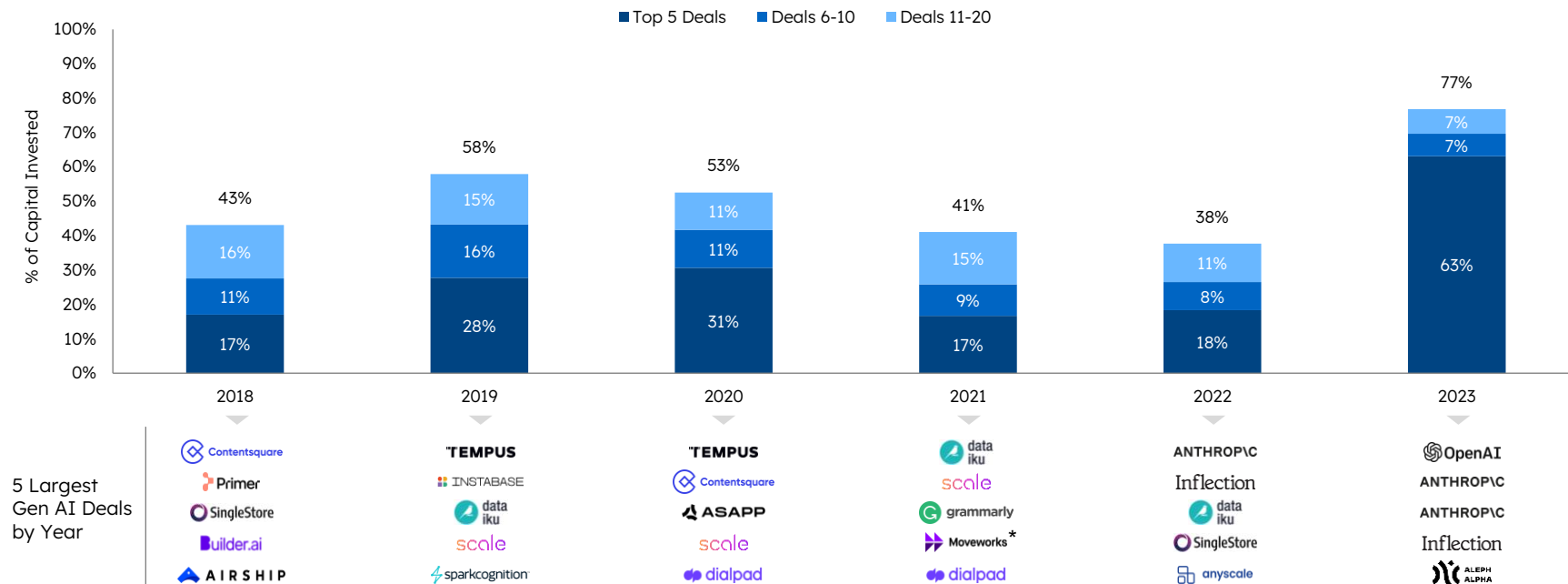
Global (ex-China/HK), 2018 – 2023



...however, Generative AI investment was highly concentrated, with the top 5 deals representing 63% of invested capital in 2023

Largest 20 Generative AI VC Deals as a Percent of Total Generative AI VC Funding

Global (ex-China/HK), 2018 – 2023

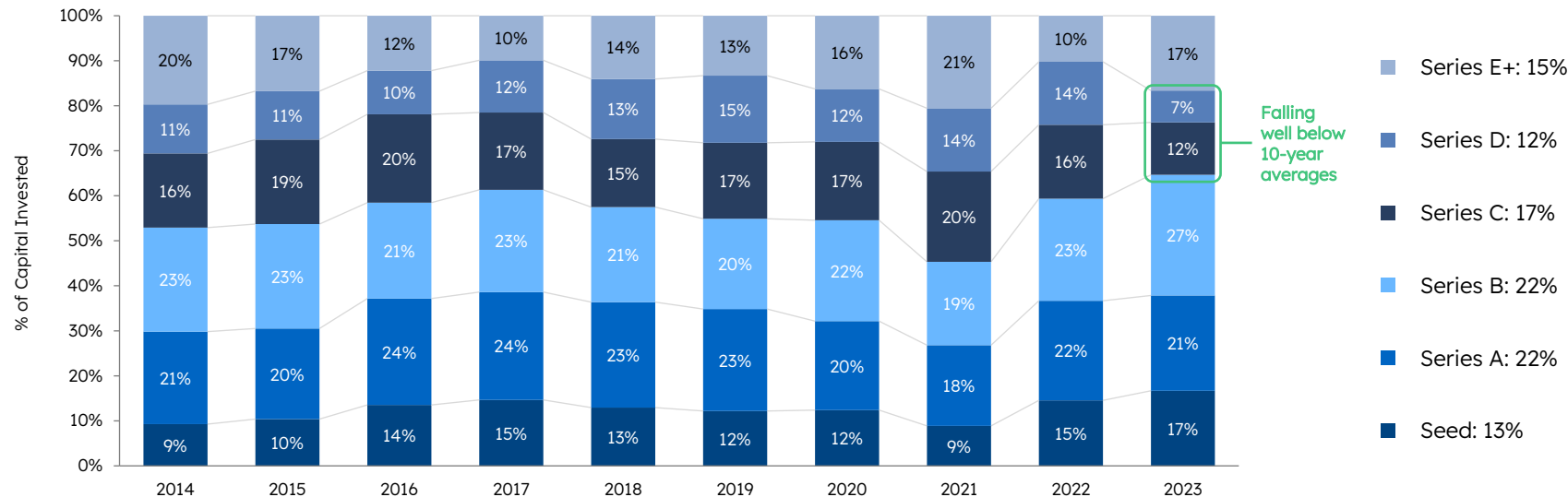


2023 saw a shift to early-stage investment with Seed + Series A (38%) claiming 2x the funding of Series C + D (19%)

Seed rounds are long-dated and largely decoupled from macroeconomic conditions, while Series C & D rounds are valuation sensitive relative to both the prior round and an expected exit

% of VC Capital Invested by Stage in Enterprise Software
Global (ex-China/HK), 2014 – 2023

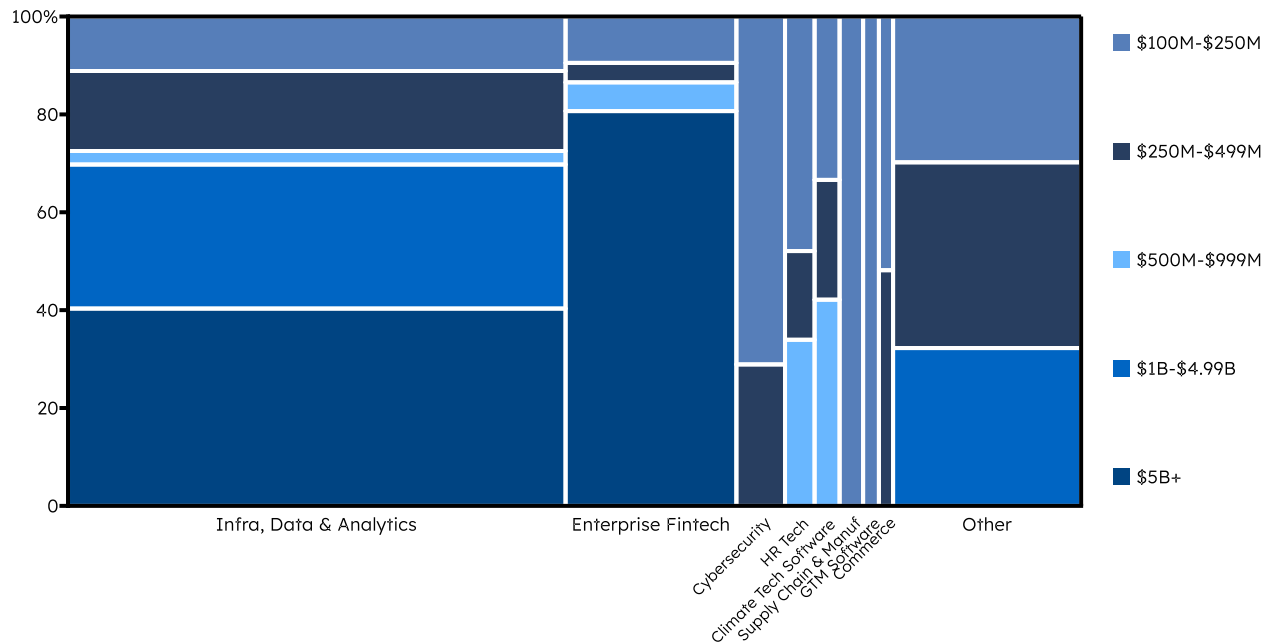
Historical Average %
of Capital



Large deal activity was concentrated in Infra, Data & Analytics and Enterprise Fintech

VC Capital Invested in Mega-Rounds (\$100M+) by Deal Size

Global (ex-China/HK), 2021– 2023



- Within Infra, Data & Analytics, Gen AI foundational model and infra providers constituted the top 11 mega-rounds and ~83% of mega-round funding
- Funding in Enterprise Fintech was similarly concentrated with Stripe's \$6.9B Series I driving 80%+ of mega-round funding
- In contrast, other core Enterprise Software categories such as Cybersecurity, Supply Chain and Manufacturing, GTM Software and Commerce saw mostly smaller mega-rounds (<\$250M)

Sources: Pitchbook data pulled as of Dec. 31, 2023; Sapphire Internal Analysis (Jan. 2024)

Notes: Pitchbook data is updated on an on-going basis and is therefore subject to change; includes all Enterprise Software VC activity ex-China/HK for deals w/disclosed transaction size; key Enterprise Software categories defined by Sapphire and do not comprise all Enterprise Software VC activity; "Other" category includes Mobility Tech, MedTech, Networking, Enterprise Crypto, and Insurtech, as well as other categories not actively tracked by Sapphire; such categories may be assigned differently by other market participants

Median deal sizes and valuations remain well above 10-year averages for all stages; Seed metrics hit decade peaks in 2023

Enterprise Software Median Round Size and Valuation

Global (ex-China/HK), 2014 – 2023

Key – Median Round Size in Year vs. 10 Year Median



Median Round Size

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-Yr Med.
Seed	\$0.7M	\$0.8M	\$0.9	\$1.0M	\$1.0M	\$1.1M	\$1.2M	\$1.5M	\$2.0M	\$2.1M	\$1.2M
Series A	\$3.5M	\$4.0M	\$4.5M	\$5.0M	\$5.3M	\$5.7M	\$6.2M	\$9.0M	\$10M	\$10M	\$6.1M
Series B	\$8.8M	\$11M	\$11M	\$12M	\$14M	\$15M	\$17M	\$27M	\$25M	\$21M	\$16M
Series C	\$14M	\$18M	\$22M	\$21M	\$25M	\$30M	\$31M	\$53M	\$50M	\$35M	\$30M
Series D	\$24M	\$25M	\$22M	\$30M	\$41M	\$48M	\$50M	\$100M	\$100M	\$54M	\$47M
Series E+	\$34M	\$40M	\$31M	\$30M	\$50M	\$68M	\$80M	\$150M	\$124M	\$109M	\$65M

Median Valuation

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-Yr Med.
Seed	\$4.6M	\$5.0M	\$5.0M	\$5.6M	\$6.0M	\$6.8M	\$7.1M	\$9.0M	\$11M	\$13M	\$1.2M
Series A	\$15M	\$17M	\$19M	\$19M	\$23M	\$24M	\$29M	\$40M	\$47M	\$43M	\$6.1M
Series B	\$42M	\$48M	\$47M	\$50M	\$63M	\$70M	\$87M	\$135M	\$135M	\$100M	\$16M
Series C	\$79M	\$100M	\$103M	\$115M	\$115M	\$170M	\$195M	\$375M	\$324M	\$270M	\$30M
Series D	\$150M	\$156M	\$156M	\$200M	\$308M	\$331M	\$381M	\$843M	\$1.0B	\$548M	\$47M
Series E+	\$279M	\$330M	\$278M	\$273M	\$465M	\$629M	\$759M	\$1.5B	\$1.8B	\$1.6B	\$65M

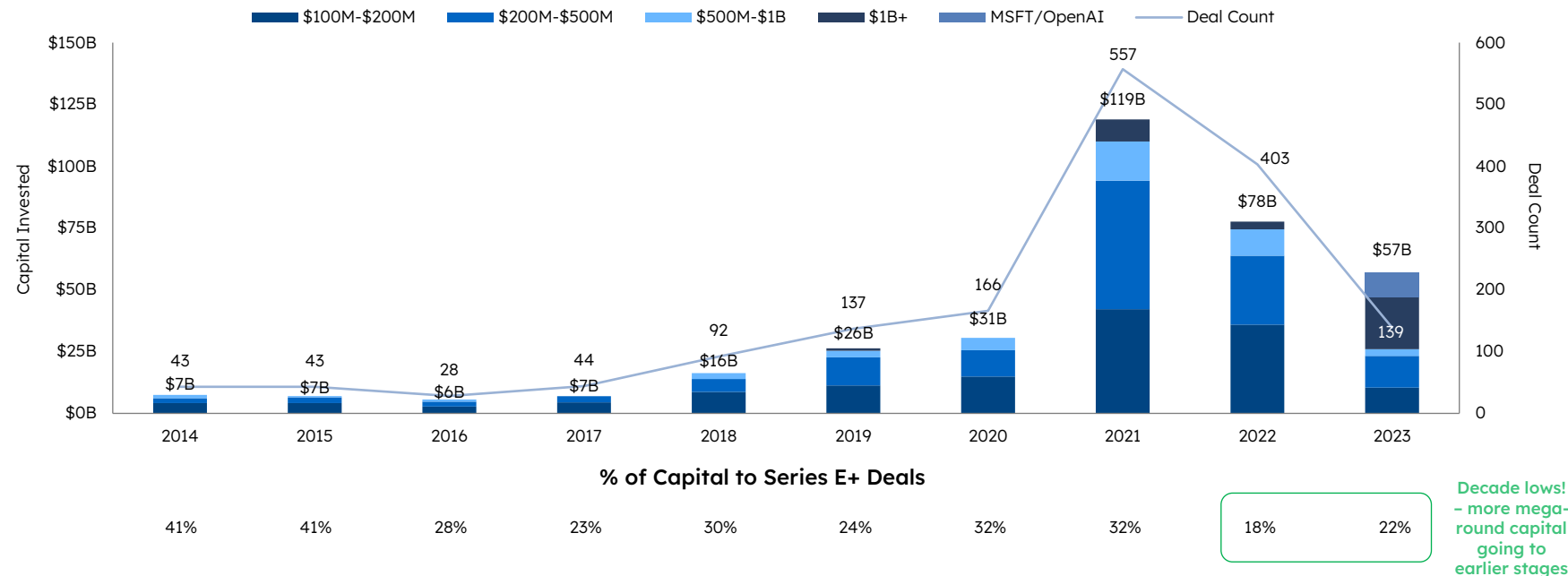
- Median round size and valuations continued to come off their 2021-2022 all-time highs, with the notable exception of Seed rounds, which saw both measures up 10% YoY
- Series D saw the most compression, with median round sizes and valuations both cut nearly in half
- Despite corrections in 2023, the decade-long software trend line is clearly up on both metrics

\$100M+ “mega-rounds” continue to decline

Mega-round count fell by nearly two-thirds in 2023 and is now down 75% from 2021 peak; notably we have seen a sharp increase in \$1B+ rounds during the same period (+167% YoY)

Enterprise Software Mega-Rounds (\$100M+) by Size Tiers

Global (ex-China/HK), 2014 – 2023

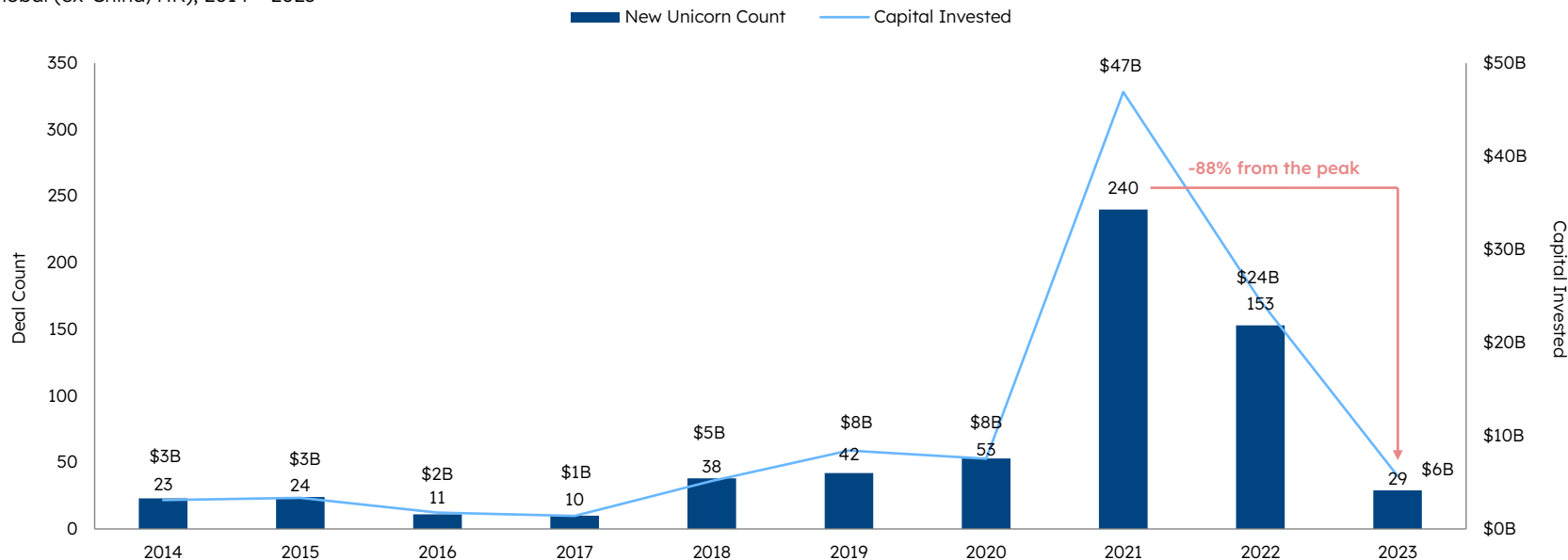


We believe we have likely (and thankfully!) moved past “peak unicorn”

In 2023, newly minted Enterprise Software unicorns and total capital raised by these new unicorns both fell by ~80% and each are now down ~90% from the 2021 peak; new unicorn capital raised is back to 2018 levels

Enterprise Software New Unicorns Created + Total Capital Raised









Global (ex-China/HK), 2014 – 2023



Representative lost unicorns from 2023

Selected Enterprise Software Companies that Lost Unicorn Status in 2023

Global (ex-China/HK)

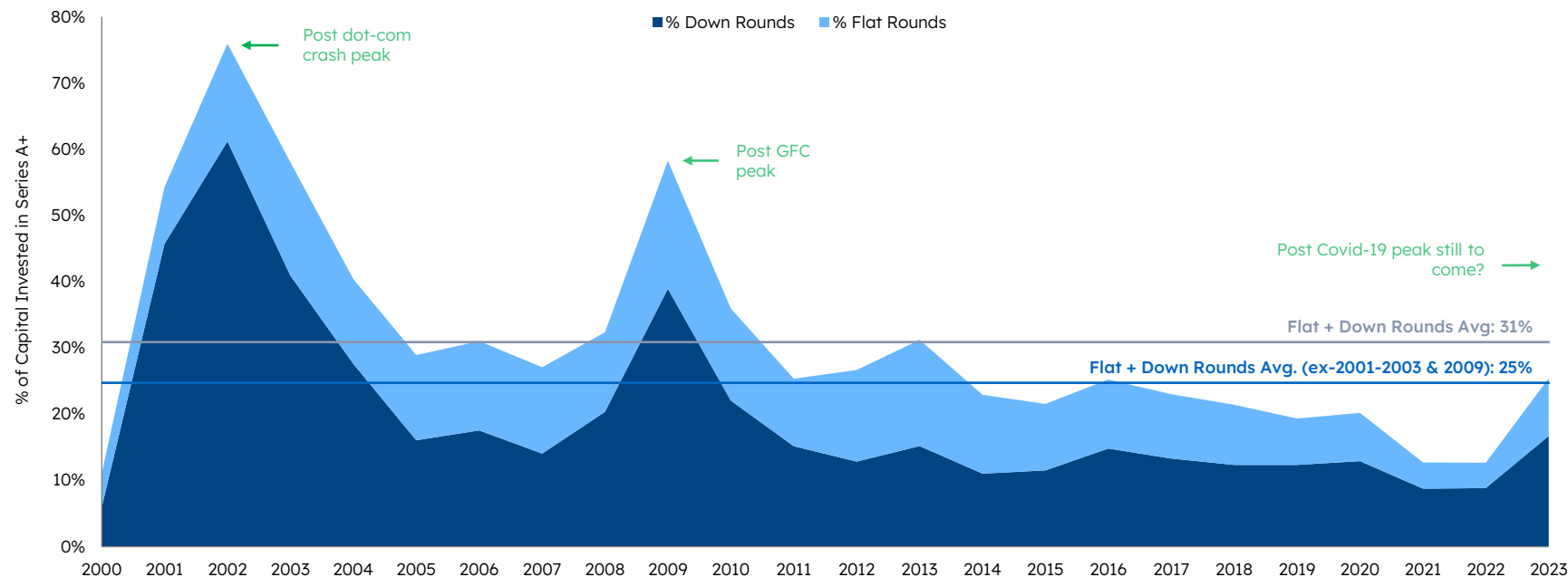
	Total Raised	Peak Valuation	Description	Outcome
 hopin	\$1.2B	\$7.7B (Jul. 2021)	Live Online Events Platform	Core business acquired by RingCentral for ~\$15M (Aug. 2023)
 Olive	\$852M	\$4.0B (Jun. 2021)	Process Automation Software	Shut down; assets sold at auction for ~\$6M (Oct. 2023)
 CONVOY	\$1.1B	\$3.8B (Apr. 2021)	Digital Freight Network	Shut down; core product acquired by Flexport (Oct. 2023)
 cybereason	\$815M	\$2.7B (Oct. 2021)	Endpoint Protection Software	Valuation cut 90%+ from 2021 Series F (Apr. 2023)
 invision	\$350M	\$2.0B (Dec. 2018)	UX Design & Collaboration	Freehand product sold in 2023; 2024 shut down announced (Jan. 2024)
 MediaMath	\$448M	\$1.0B (Jul. 2018)	Advertising Management Services	Shut down; assets acquired by Infillion for \$22M (Aug. 2023)
 perimeter 81	\$165M	\$1.0B (Jun. 2022)	Cloud & Network Security	Acquired by Check Point for ~\$490M (Aug. 2023)
 VESTOO	\$109M	\$1.0B (Oct. 2022)	Risk Management Platform	Shut down after fraud allegations (Aug. 2023)

- Exact data for all lost unicorns is hard to track; however, there have been several very public announcements in the past few months regarding **companies shutting down operations or taking acquisition offers at prices significantly below their last private valuation**
- This activity has been across categories and vintages

Down and flat rounds reached the highest percentage of VC deals in 10 years but remain below previous peaks

Enterprise Software Down and Flat Rounds as a % of All Series A+ VC Funding

Global (ex-China/HK), 2000 – 2023



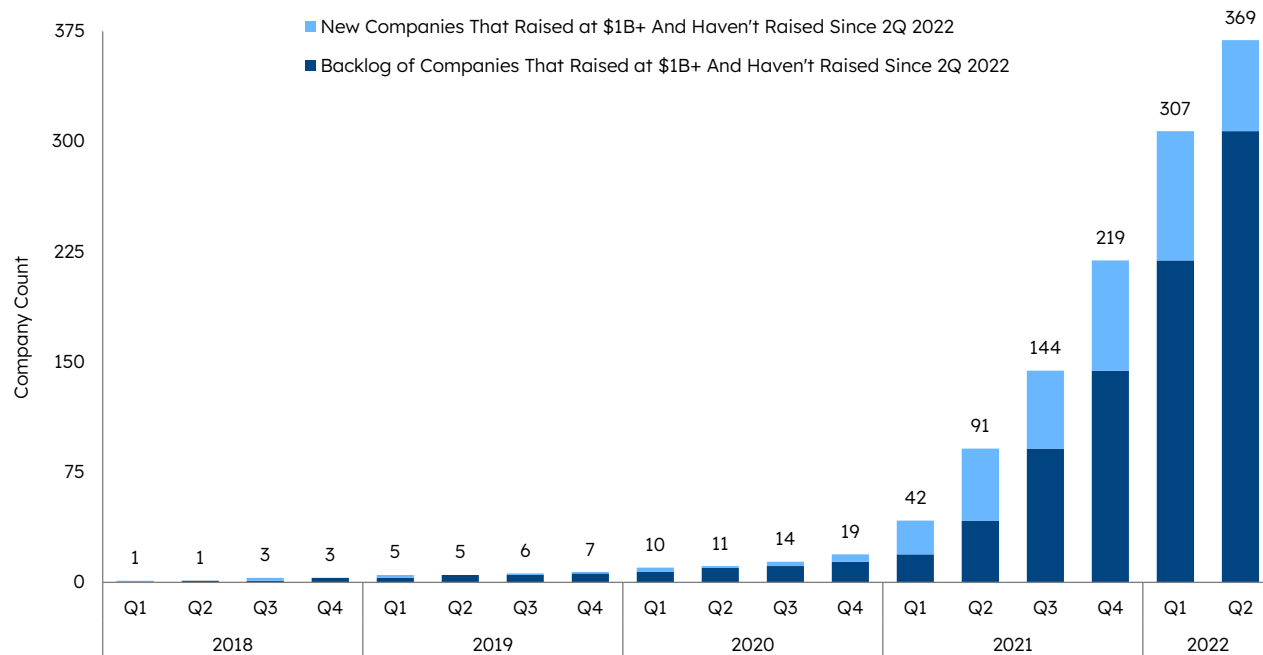
Sources: Pitchbook data pulled as of Dec. 31, 2023; Sapphire Internal Analysis (Jan. 2024)

Notes: Pitchbook data is updated on an on-going basis and is therefore subject to change; includes all Enterprise Software VC activity ex-China/HK for Series A+ deals w/disclosed transaction size and categorized as "down round," "flat round" or "up round"; definitions compare pre-\$ valuation to previous round post-\$ valuation; "down round" defined as 10%+ lower, "flat round" defined as +/- 10%, and "up round" defined as 10%+ higher

There is a record high backlog of companies with \$1B+ valuations that haven't raised capital in the last 18 months

Enterprise Software Unicorns that Have Not Raised Capital in Last 18 Months

Global (ex-China/HK), Q1 2018 – Q2 2022 (18-month cut-off)

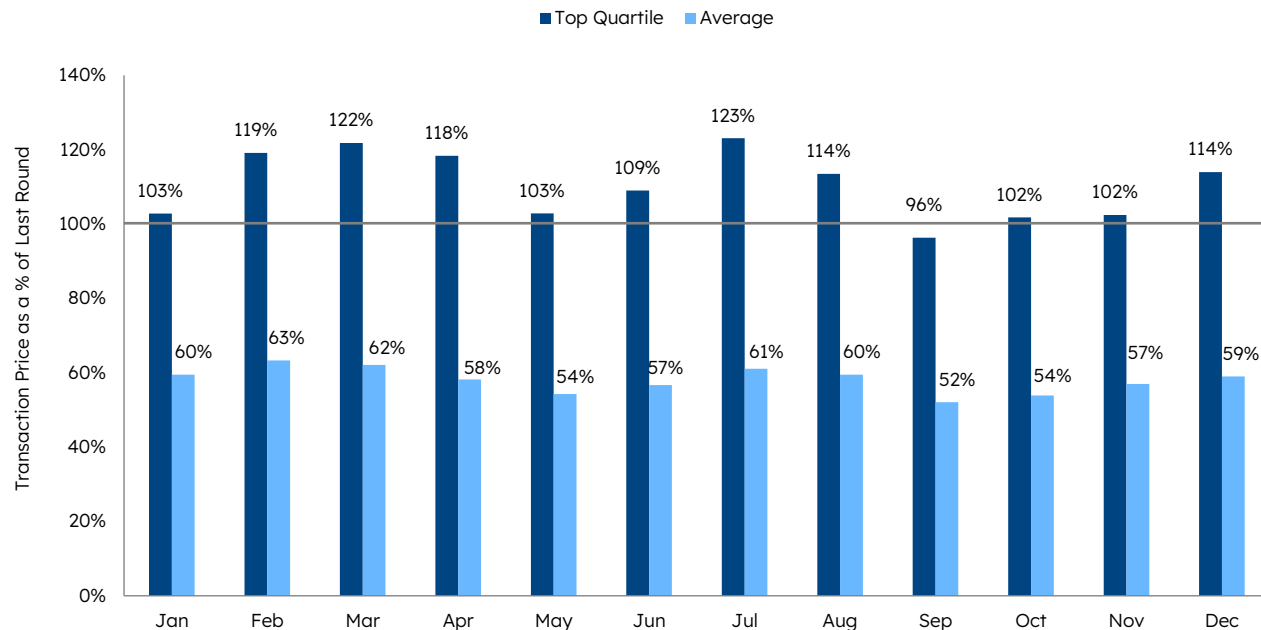


- **~370 Enterprise Software unicorns have not raised money in the past 18 months**
- While most have likely cut costs and extended runway, they will eventually need to come back to the market for fresh capital, or explore other exit options
- We believe activity from this group is most likely to pick up in late 2024 and early 2025

In 2023, average secondary VC transactions traded at ~50-60% of the last round value consistently throughout the year

Secondary Transaction Price vs. Last Primary Funding Round, Total VC

Global, Jan. 2023 – Dec. 2023

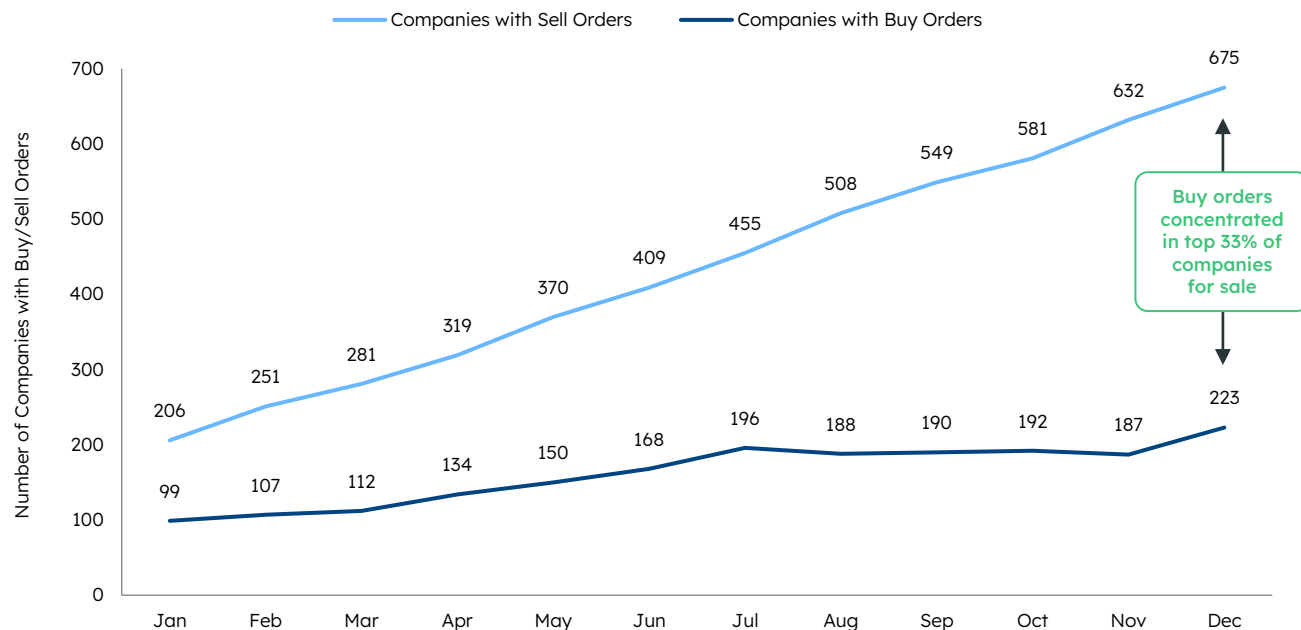


- The secondary market showcased two competing trends: (1) deep discounts across most names as public multiples compressed, and (2) a flight to liquidity and quality in top quartile names, including recent Gen AI-related financings
- While the dataset is not robust enough to show aggregate data trends only for Enterprise Software, we believe secondary SaaS valuations suffered from lower growth stemming from customer cost cutting and reduced GTM spend

Throughout the year, buy orders were concentrated in the top ~200 companies that issued sell orders

Secondary Transaction Price Buy and Sell Order Company Count, Total VC

Global, Jan. 2023 – Dec. 2023



2023 Average Bid/Ask Spread

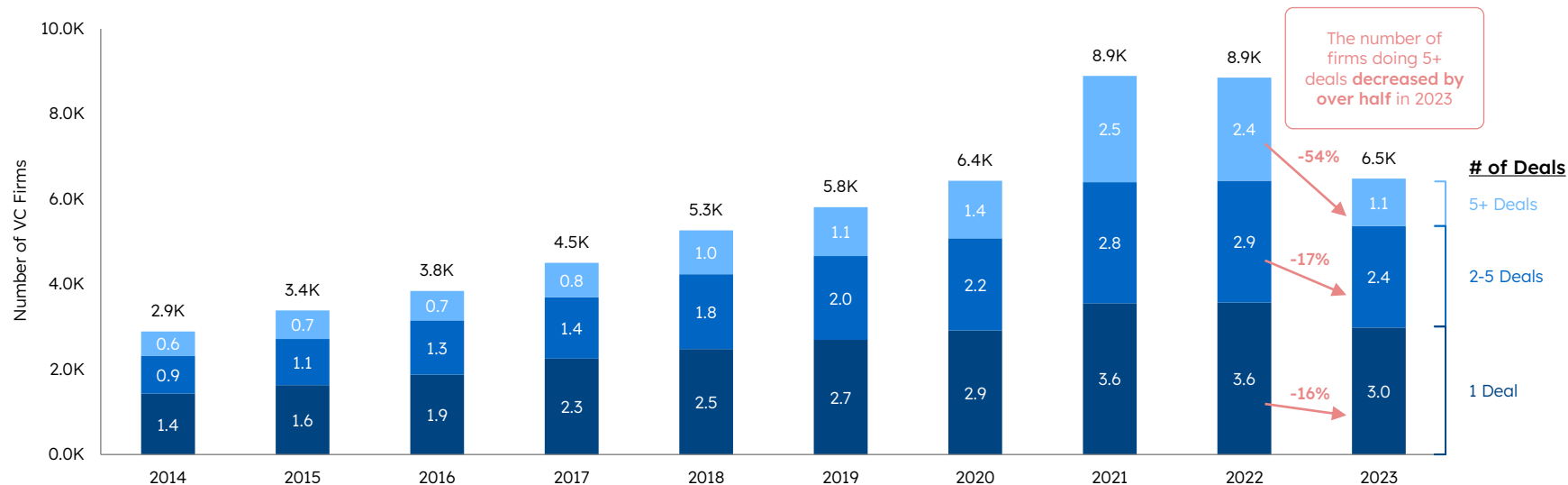
Top Quartile	5%
2 nd Quartile	18%
3 rd Quartile	35%
Bottom Quartile	61%

- A dearth of liquidity pulled buyers and sellers in opposite directions, resulting in wide bid/ask spreads of around 30% for most of the year, according to Hiive data
- We believe that the concentration of buyers in the top ~200 tech names indicates investor appetite for high-quality companies and those that are nearing IPO readiness

Number of active VC firms fell to the pre-pandemic trendline, down nearly 30% from 2021 levels...

VC Investors in Enterprise Software by Year

Global (ex-China/HK), 2014 – 2023



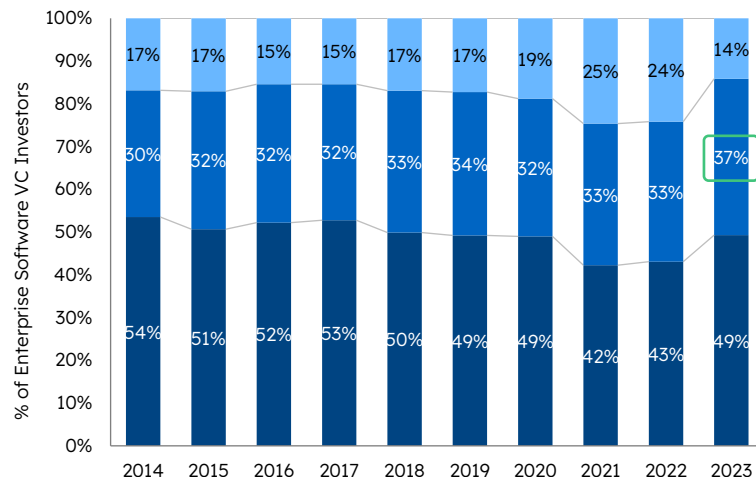
With trend reverting to pre-pandemic levels, our view is that more “tourists” are leaving Enterprise Software

...and deal velocity also slowed, particularly in the later stage

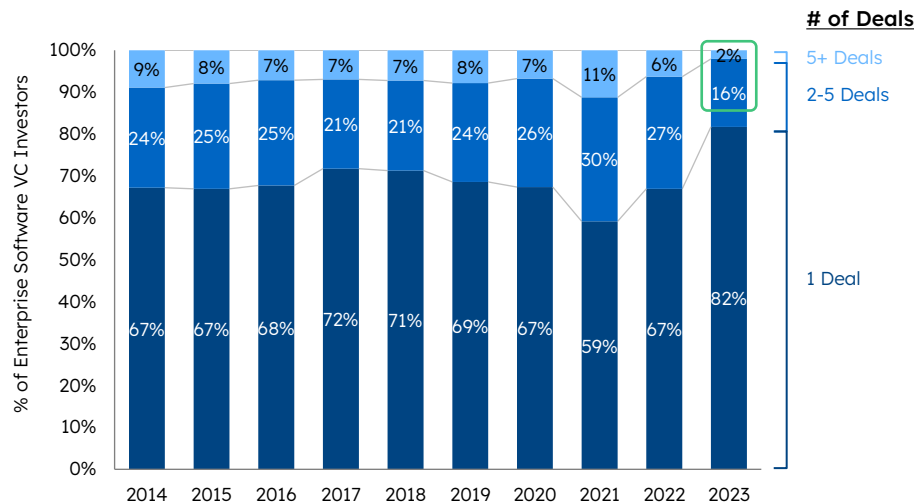
VC Investors in Enterprise Software by Year, Seed – Series B vs. Series C+

Global (ex-China/HK), 2014 – 2023

Seed – Series B



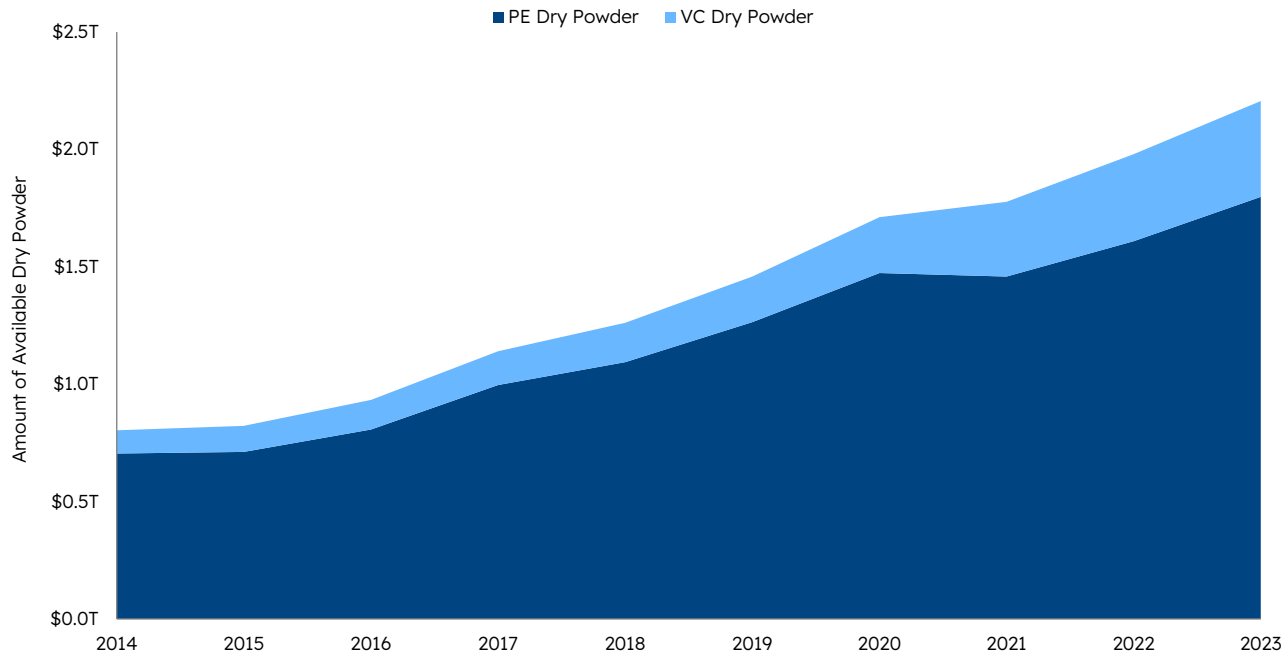
Series C+



While firms making 5+ deals fell across both early and later stages, the decline was much more pronounced for Series C+ as the % of firms deploying at that pace fell to a quarter of the pre-pandemic trend

Private investors are keeping more capital on the sideline

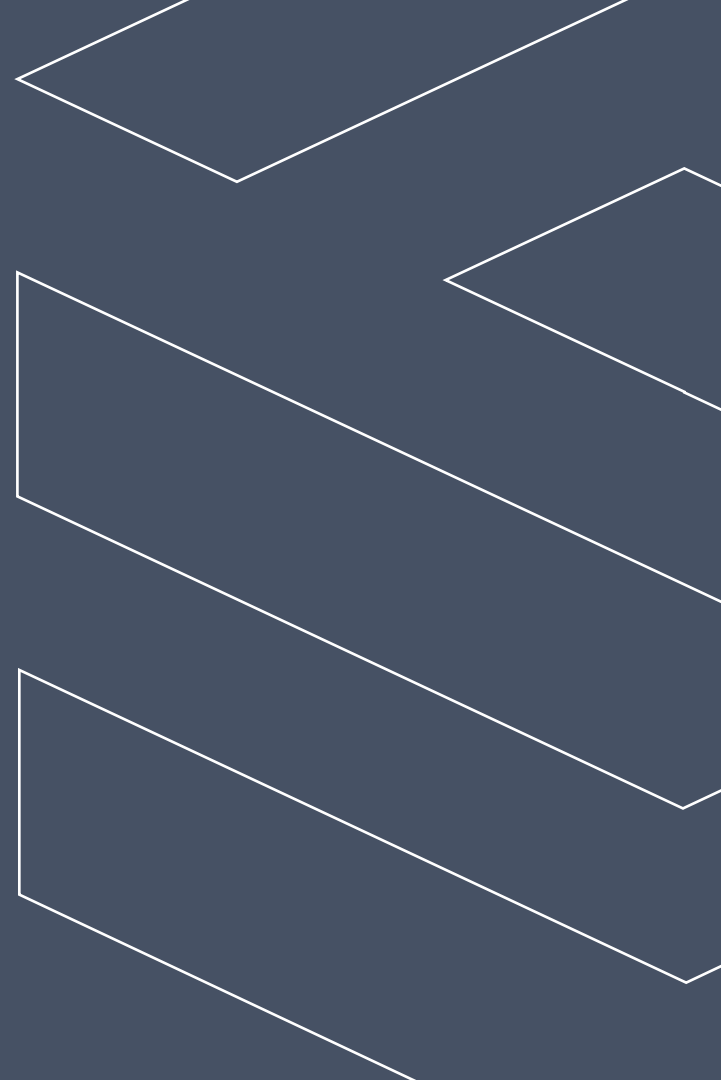
PE and VC Dry Powder
Global (ex-China/HK), 2014 – 2023



- A slowdown in total VC fundraising was offset by the slowdown in total funding during the year, as both VC and PE firms retreated from previous levels of deployment
- These factors combined to reaccelerate dry powder growth after a period of leveling in 2020-2021
- While the numbers are eye-popping, there is healthy debate in the industry around how much is truly freely available capital

SAPPHIRE

III. Public Markets



What Happened with Public Market Enterprise Software in 2023

- Public markets broadly, and software stocks specifically, bounced back strongly in 2023 after a dismal 2022 – the benchmark Nasdaq was up 43% on the year, while the Sapphire Broad Software Index was even better, gaining 58%
- The “Magnificent 7” was the dominant story as those well-known mega-cap darlings gained 76%, while adding a collective \$5.1T in market cap during the year...
- ...though they couldn’t quite keep pace with the “SaaS 7” (the 7 largest public SaaS stocks), which returned 85% in 2023!
- Valuation multiples expanded, but remain below long-term averages
- Growth rates began to normalize, leading to growth regaining more of its premium to FCF margin in driving valuations
- Gross margins jumped after 7 years of moving sideways...
- ...while NDR and Magic Number both fell to new lows
- Cybersecurity was the leading subsector across many variables

Public Markets in 2023: By the Numbers

+58%

2023 gain for the Sapphire Broad Software Index (132 companies)

+85%

2023 gain for the “SaaS 7”, which even outperformed the mega-cap “Magnificent 7” (+76%)

5.6x

Median SaaS Price-to-Sales multiple at the end of the year (vs. ~15x at 20/21 peak)

2

of public SaaS companies exiting 2023 with a 30%+ growth rate (vs. 41 in 2021)

2.1x

Relative importance of Growth vs. FCF Margin in valuation

77%

Median Gross Margin for public SaaS companies, up from 72% in 2022 and 69% in 2014

110%

Median NDR for public SaaS companies – a 5-year low

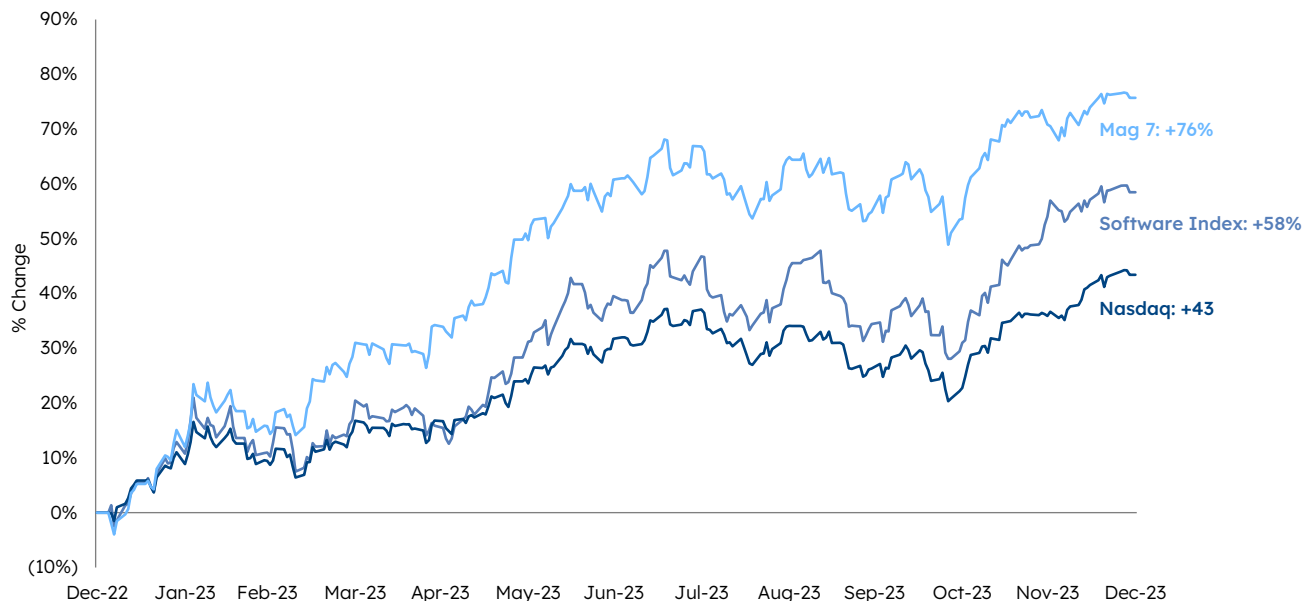
0.52

Median Magic Number for public SaaS companies – a 10-year low

Public markets rebounded in 2023 with the “Magnificent 7”, Broad Software Index & benchmark Nasdaq all having big years...

“Magnificent 7”, Sapphire Broad Software Index & Nasdaq
Composite Indexed Price Performance

Dec. 2022 – Dec. 2023

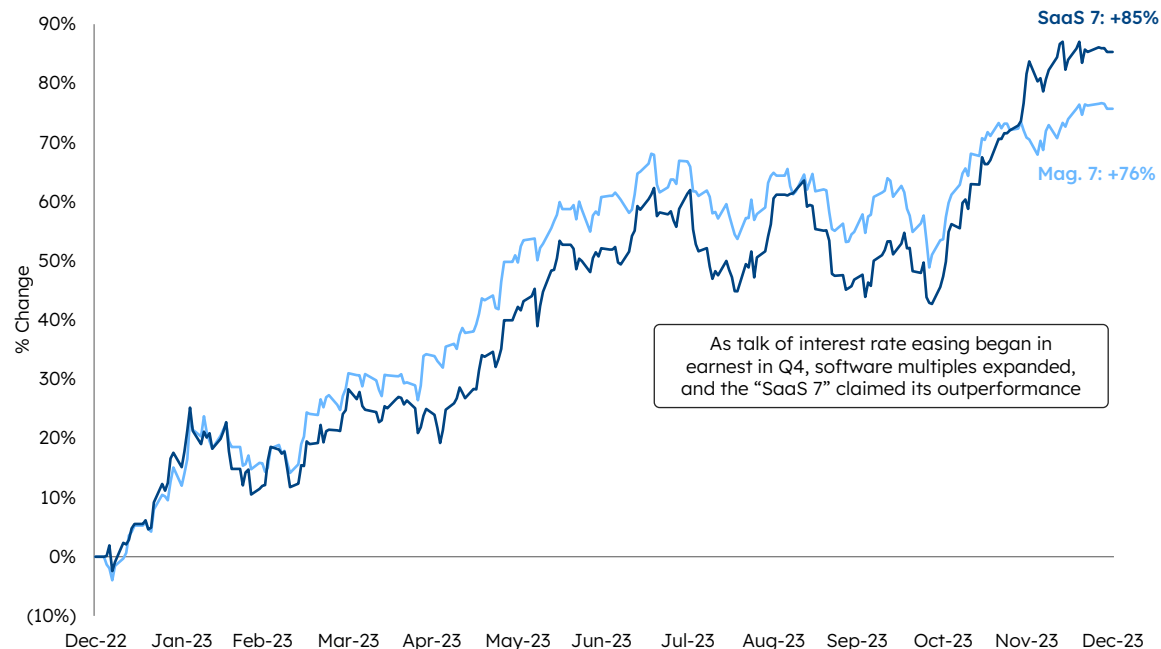


- 2023 saw public markets rebound strongly as the benchmark Nasdaq index finished up 43%, its best year since 2020 and **fourth best this century**
- Software did even better with the Sapphire Broad Software Index of 132 public companies **gaining 58%**
- However, the dominant story throughout the year was mega-cap tech with the “Magnificent 7” **returning 76% and adding a collective \$5.1T in market cap!**

...but the largest 7 SaaS companies outperformed the Nasdaq and even the “Magnificent 7”

“Magnificent 7” and “SaaS 7,” Indexed Price Performance

Dec. 2022 – Dec. 2023



2023 Constituent Performance

“Mag. 7”

“SaaS 7”

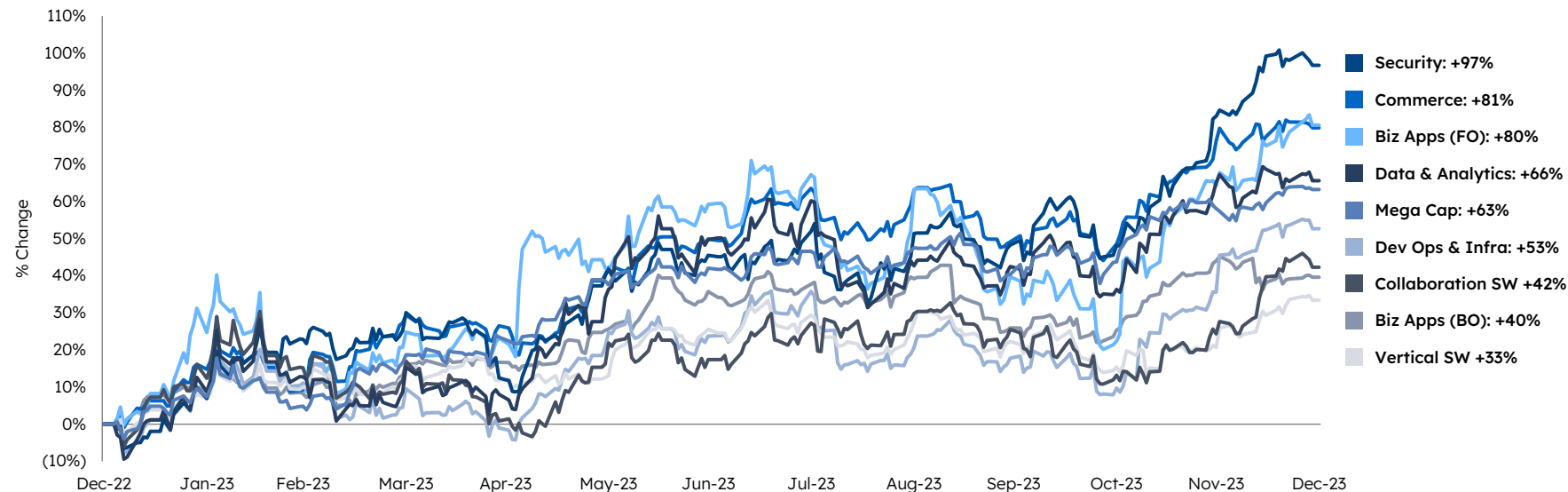
Company	Price Change	Market Cap Gain
Apple	+48%	\$927B
Microsoft	+57%	\$1.0T
Google	+58%	\$610B
amazon	+81%	\$713B
nvidia	+239%	\$863B
Meta	+194%	\$594B
TESLA	+102%	\$401B

Company	Price Change	Market Cap Gain
Adobe	+77%	\$115B
conduent	+98%	\$123B
servicenow	+82%	\$66B
shopify	+124%	\$56B
paloalto	+111%	\$51B
workday	+65%	\$30B
snowflake	+39%	\$19B

Enterprise Software performance by sub-sector (1/2)

Enterprise Software, Indexed Price Performance by Sector

Sapphire Broad Software Index, Dec. 2022 – Dec. 2023

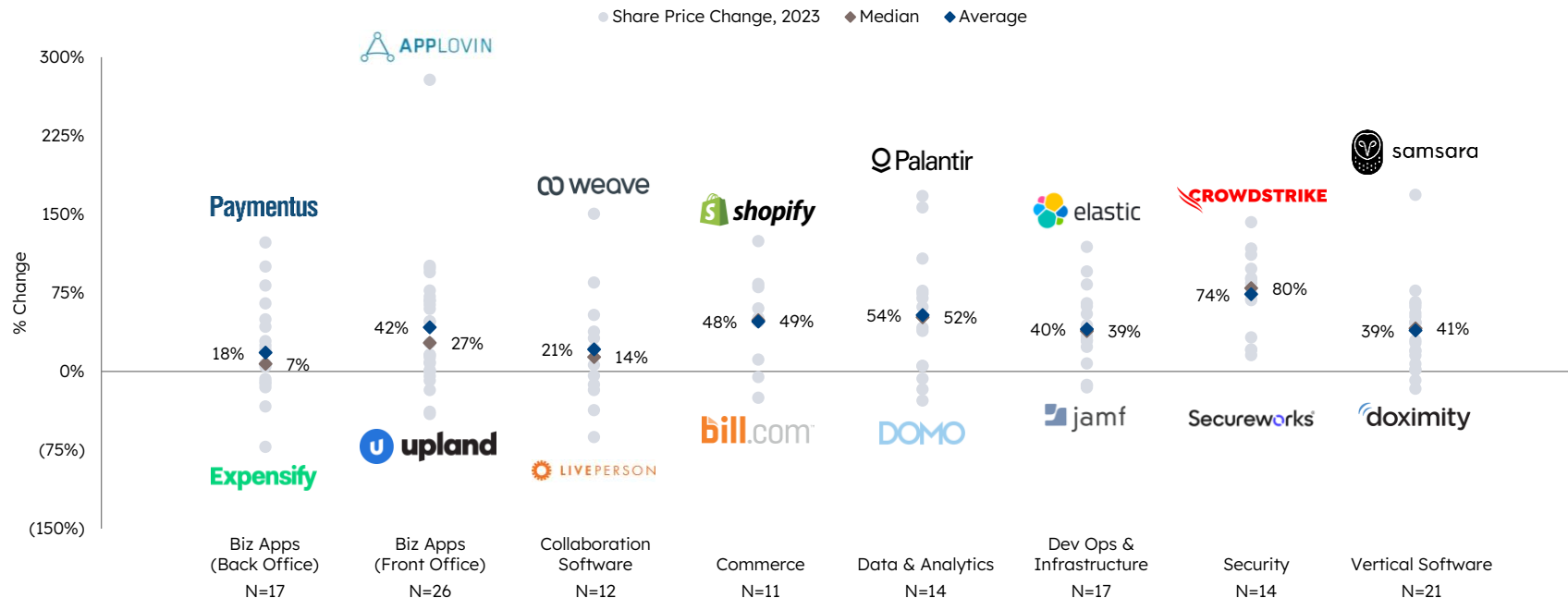


Security was a material outperformer in 2023, led by the performance of CrowdStrike; Commerce (led by Shopify), Front-Office Biz Apps (led by AppLovin) and Data & Analytics (led by Palantir) all outperformed the Sapphire Broad Software Index as well

Enterprise Software performance by sub-sector (2/2)

2023 Price Change by Sector

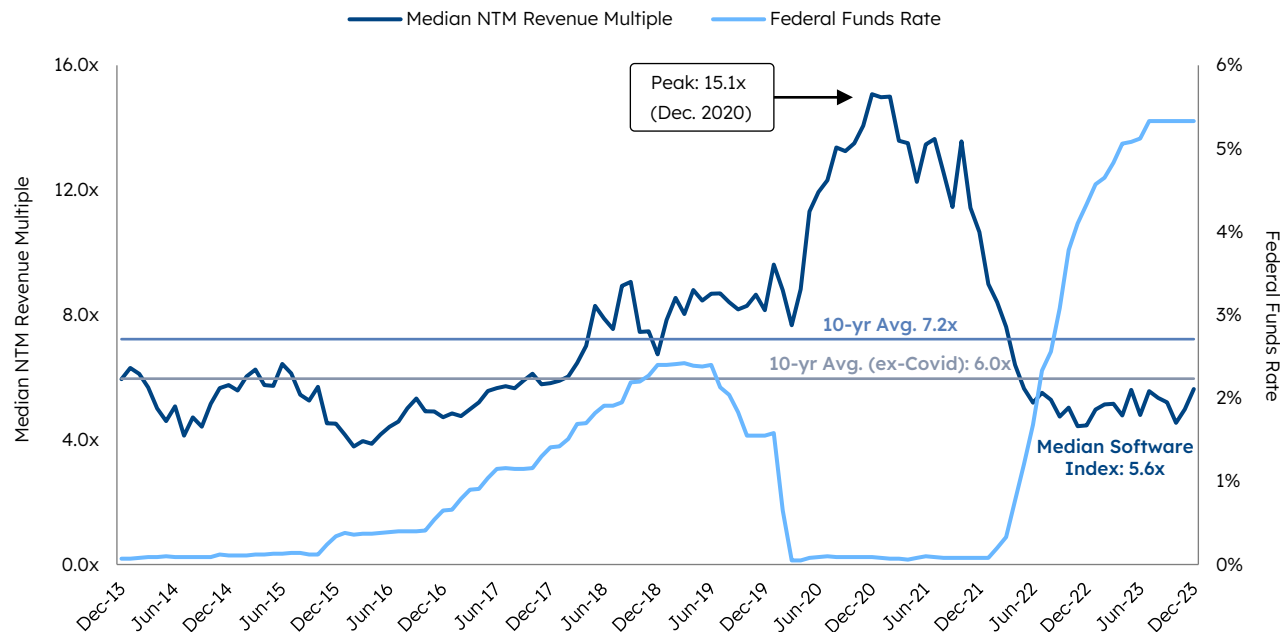
Sapphire Broad Software Index, 2023



Multiples have receded below historic averages, even excluding the pandemic market peak...

Median NTM Revenue Multiple

Sapphire Broad Software Index, Dec. 2013 – Dec. 2023

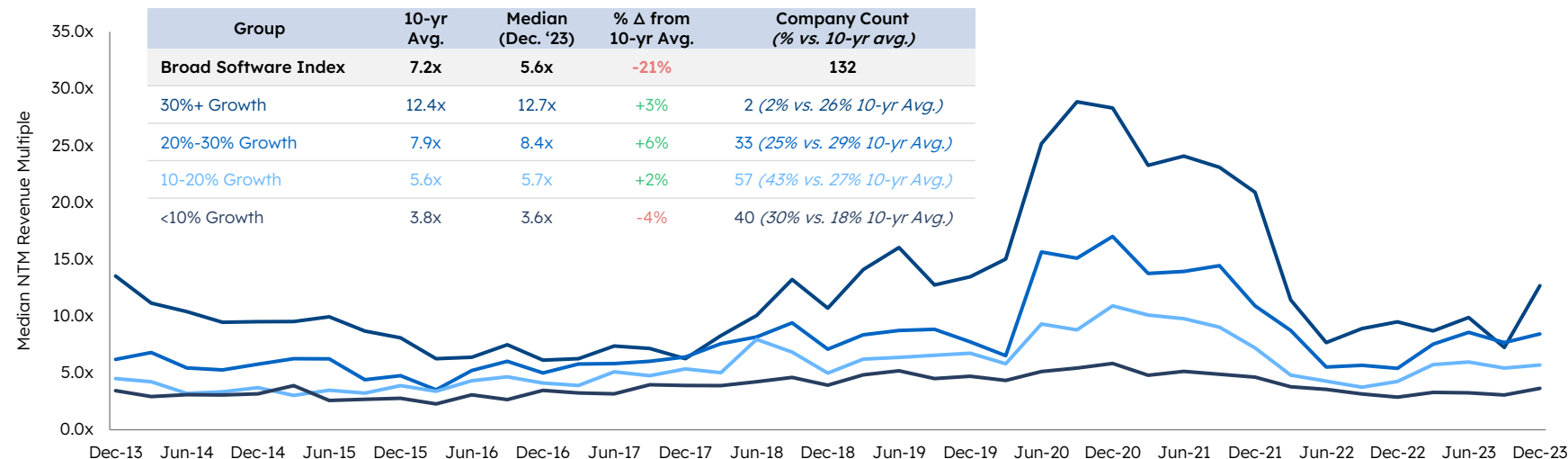


- Revenue multiples are a shorthand metric for future discounted cash flows; as a result, higher growth leads to higher multiples
- Enterprise Software multiples were fueled by hyper-growth and supportive ZIRP policies during the pandemic
- While software multiples have largely stabilized as compared to historic levels, they have room to expand as growth inflects higher and interest rates decrease

...however, the lower median multiple results mostly from a reduction in the number of 30%+ growers

Median NTM Revenue Multiple by Growth Tier

Sapphire Broad Software Index, Dec. 2013 – Dec. 2023



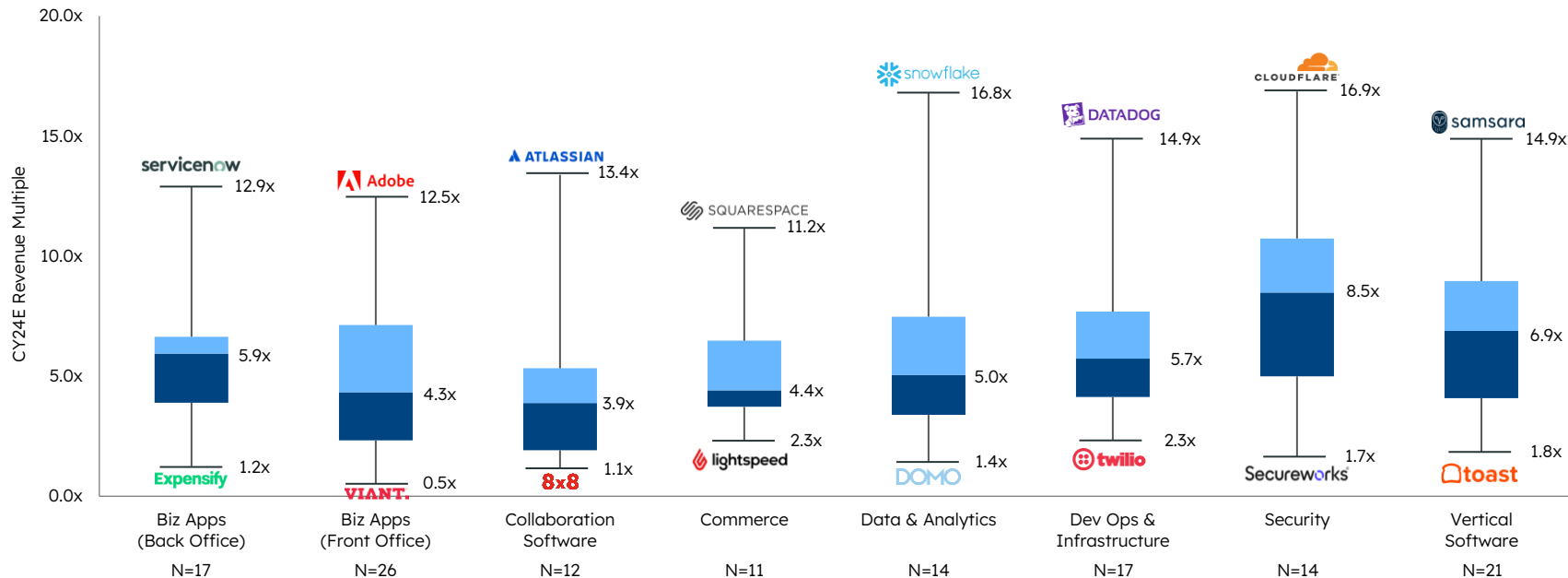
While multiples for 30%+ growth companies have held up well, their numbers have fallen significantly with only 2 companies maintaining this level of growth at the end of 2023 (vs. 41 in 2021 and 19 in 2020)

Divergence in valuations was also seen across sectors

Category leaders with strong growth profiles and improving efficiency were rewarded with significant valuation premiums relative to peers

Enterprise Value/CY2024E Revenue by Sector

Sapphire Broad Software Index, 2023



Our perspective on how SaaS metrics evolved in 2023

Revenue Growth

Normalized after 2022 crash and set to inflect higher

Free Cash Flow Margin

In focus, but growth still ~2x more important

“Rule of 40”

Market emphasizing now but on growth-adjusted basis

Gross Margin

Spiked higher after moving sideways for seven years

Net Dollar Retention (NDR)

Median and top quartile NDR hit five-year lows





































Magic Number

Fell to a 10-year low; poised to rebound?

Median operating metrics by valuation tier

Median Enterprise Software Operating Metrics

Sapphire Broad Software Index, 2023

	0.0x – 5.0x EV/CY24E Rev.	5.0x – 7.5x EV/CY24E Rev.	7.5x – 10x EV/CY24E Rev.	10x+ EV/CY24E Rev.
Company Count	62	29	23	18
Rev. Growth	10%	13%	19%	20%
FCF Margin	11%	18%	16%	25%
‘Rule of 40’	23%	31%	37%	44%
Gross Margin	73%	79%	79%	79%
Net Dollar Retention	107%	111%	114%	120%
LTM Mean Magic Number	0.38	0.47	0.55	0.62
Representative Companies	        	        	        	        

Sources: S&P Capital IQ data pulled as of Dec. 31, 2023; PublicComps.com; Company Filings; Sapphire Internal Analysis (Jan. 2024)

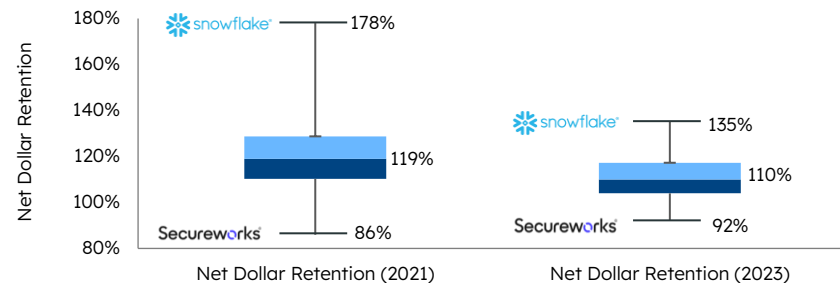
Notes: Sapphire Broad Software Index includes 132 Sapphire-selected Enterprise Software companies; 2023 data as of last public filing; magic number shows LTM average of current quarter net new ARR/prior quarter sales & marketing expense; FCF calculated as CFO – capex; growth, FCF margin and ‘Rule of 40’ are CY24E; all other metrics are CY23A; representative companies sorted by market cap as of Dec. 31, 2023

Key SaaS metrics, 2021 vs. 2023

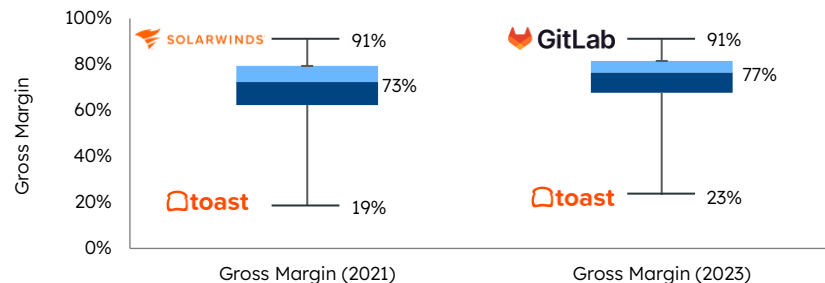
Key Operating and Financial Metrics by Quartile

Sapphire Broad Software Index, 2021 vs. 2023

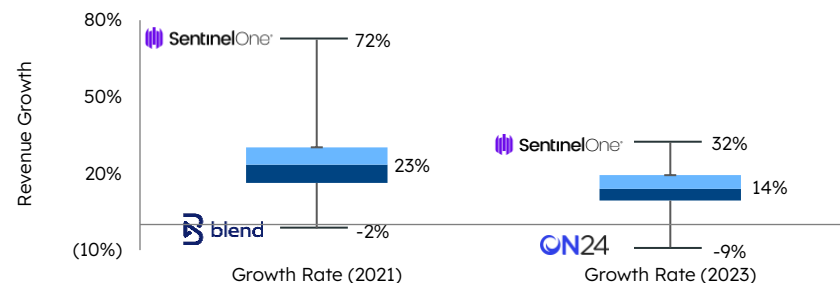
Net Dollar Retention



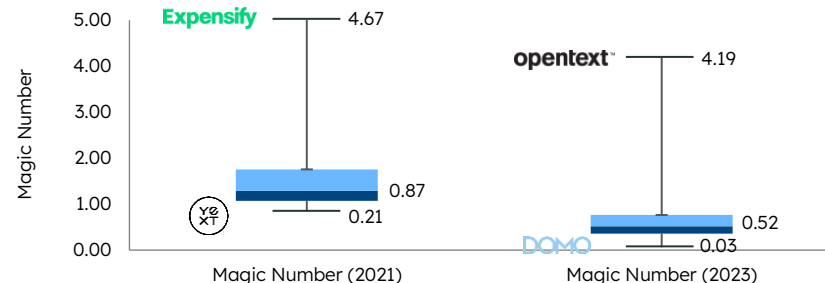
Gross Margin



Growth Rate (CY22E vs. CY24E)



Magic Number

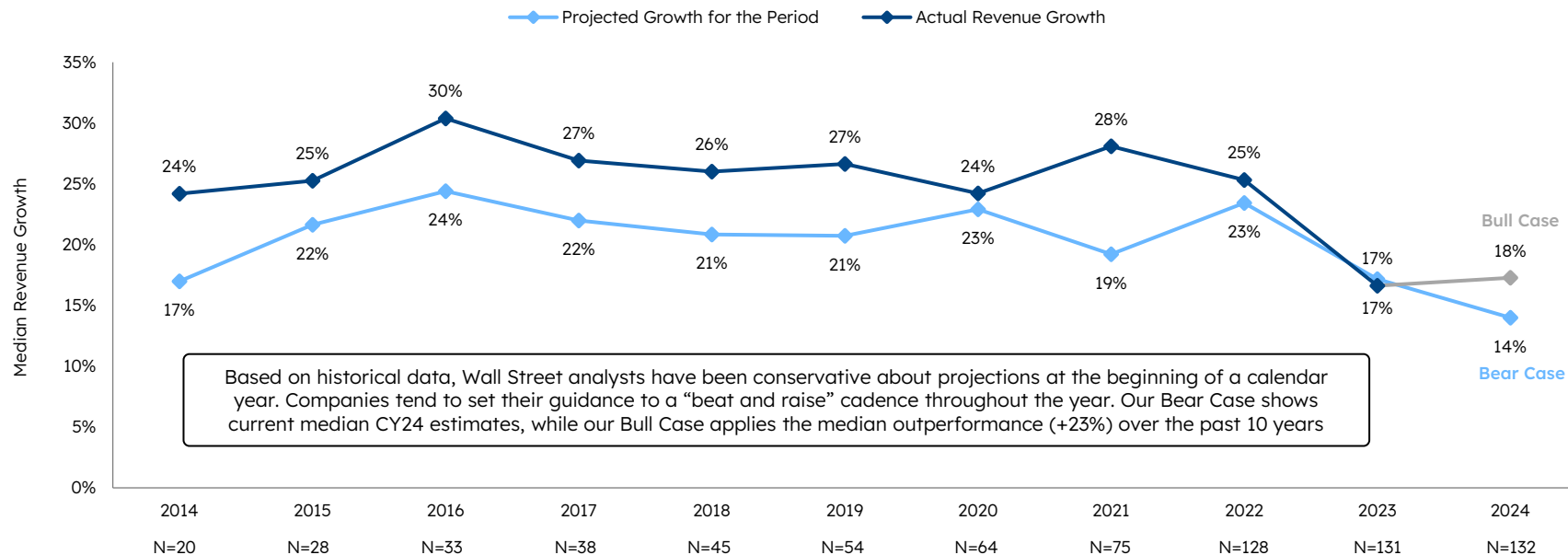


Software growth rates declined again in 2023 as companies moderated GTM spending and buyers rationalized their stack

We feel historical company outperformance and analyst conservatism leave room for a growth inflection in 2024

Median Revenue Growth Estimates vs. Actual Performance

Sapphire Broad Software Index, 2014 – 2023 + 2024 Estimates



Revenue Growth and FCF Margin impact on valuation: 25% growth with 20%+ margin is increasingly rare

EV/CY2024E Revenue, Breakdown by Revenue Growth and FCF Margin

Sapphire Broad SaaS Index, 2023

		CY2024E Rev. Growth				
		<10%	10% - 15%	15% - 25%	25%+	All
CY2024E FCF Margin	<10%	N=11 1.7x	N=10 3.7x	N=11 4.6x	N=8 7.4x	3.7x
	10-20%	N=12 2.9x	N=11 5.0x	N=20 7.5x	N=3 7.9x	5.5x
	20-30%	N=9 4.1x	N=8 6.2x	N=11 9.6x	N=2 12.8x	6.4x
	30%+	N=7 4.3x	N=3 11.9x	N=4 9.9x	N=1 15.0x	9.0x
	All	3.2x	5.4x	7.6x	8.4x	

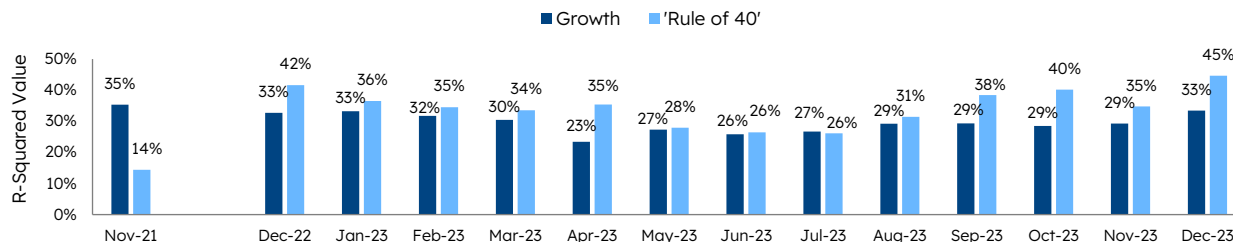
- As of the end of 2023, only three public companies were projected to grow at >25% with FCF margins >20% in 2024; these companies were rewarded with very high CY24E valuation multiples (12.8x – 15.0x)
- As of the end of 2023, 14 companies were projected to grow at >25% and were valued lower at 8.4x (but still higher than the 30 companies with 20-30% FCF margins at 6.4x)

Although “Rule of 40” R-Squared is now higher, growth is still ~2x more important than margin

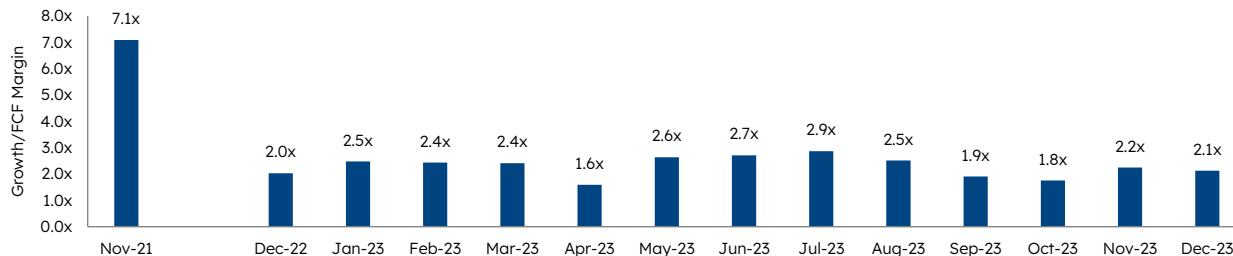
EV/NTM Revenue, “Rule of 40” R-Squared vs. Two-Factor Regression

Sapphire Broad SaaS Index, 2021 - 2023

R-Squared, Growth vs. ‘Rule of 40’



Two-Factor Regression, Relative Importance of Growth/FCF Margin

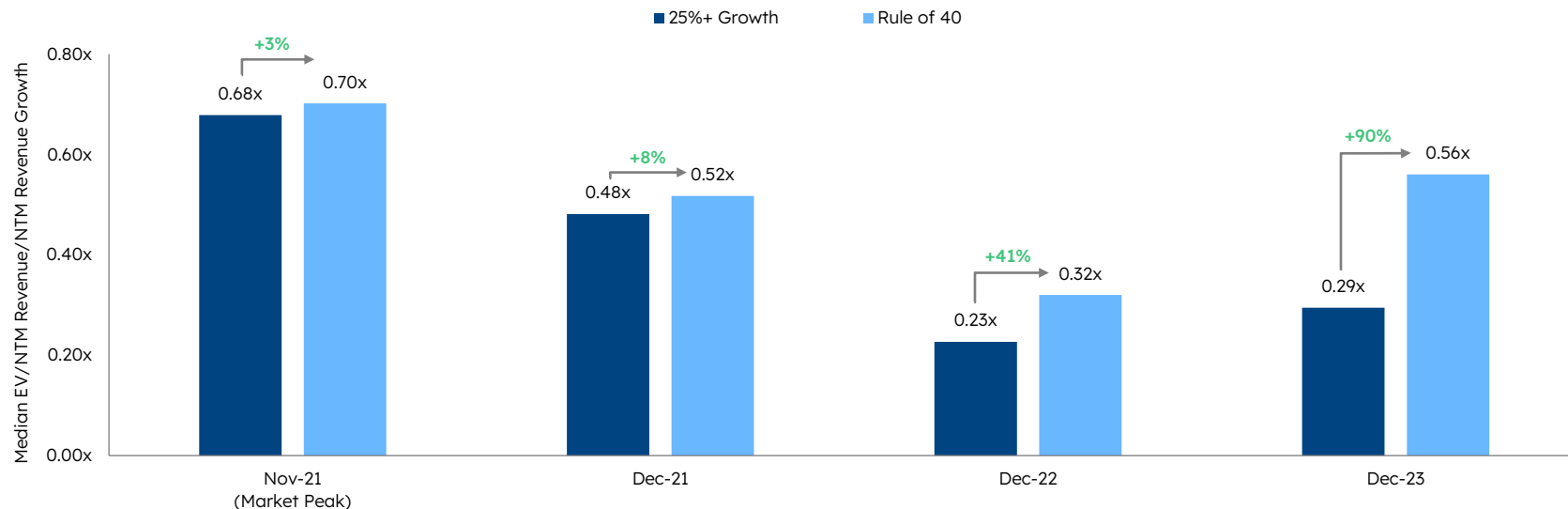


- Efficient growth is increasingly valued by the market in a post-pandemic, non-ZIRP era, so it makes sense that the combo “Rule of 40” metric matters
- But it could be a mistake to assume that this means growth and margin are of equal importance (they are 1:1 weighted in R40 calc), since growth compounds and ultimately delivers higher levels of future FCF to discount

The market continues to increase emphasis on efficient growth

Median EV/NTM Revenue/NTM Revenue Growth, 'Rule of 40' vs. 25%+ Growth

Sapphire Broad Software Index, 2021 – 2023

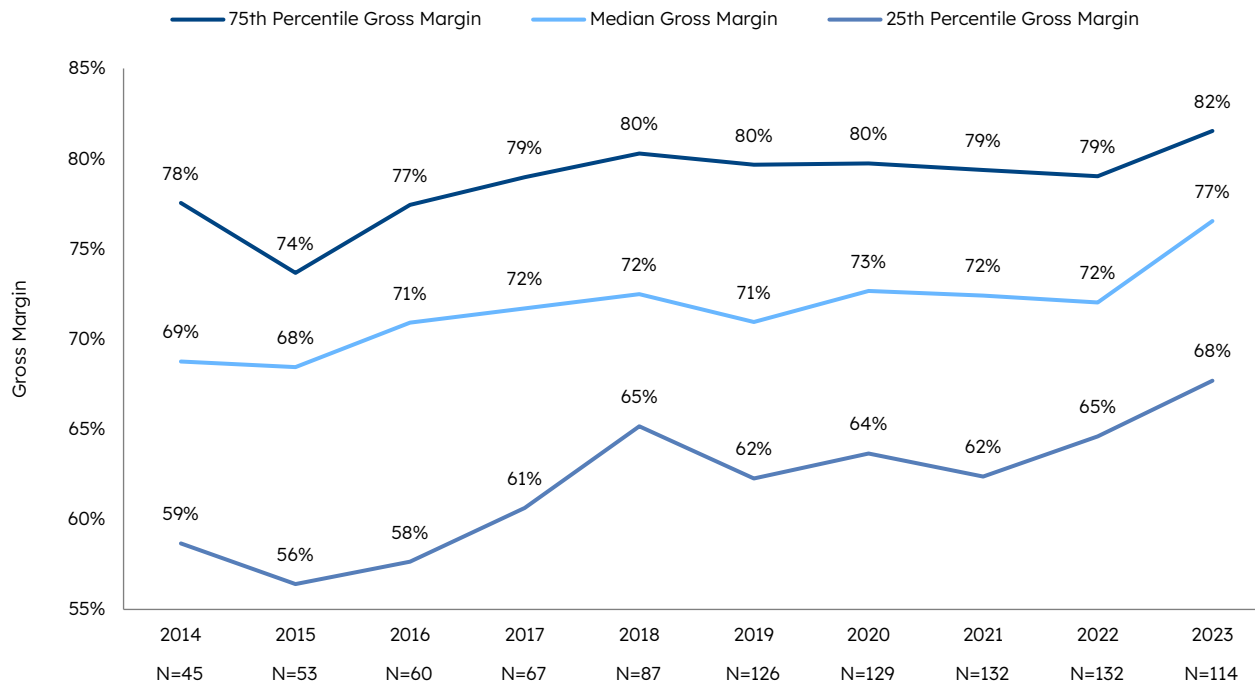


On a growth-adjusted basis, 'Rule of 40' companies have seen a relative increase in valuation when compared to 25%+ growers, indicating investors' preference for profitable growth

Median gross margins spiked during the “Year of Efficiency”

Gross Margin Over Time

Sapphire Broad Software Index, 2014 – 2023

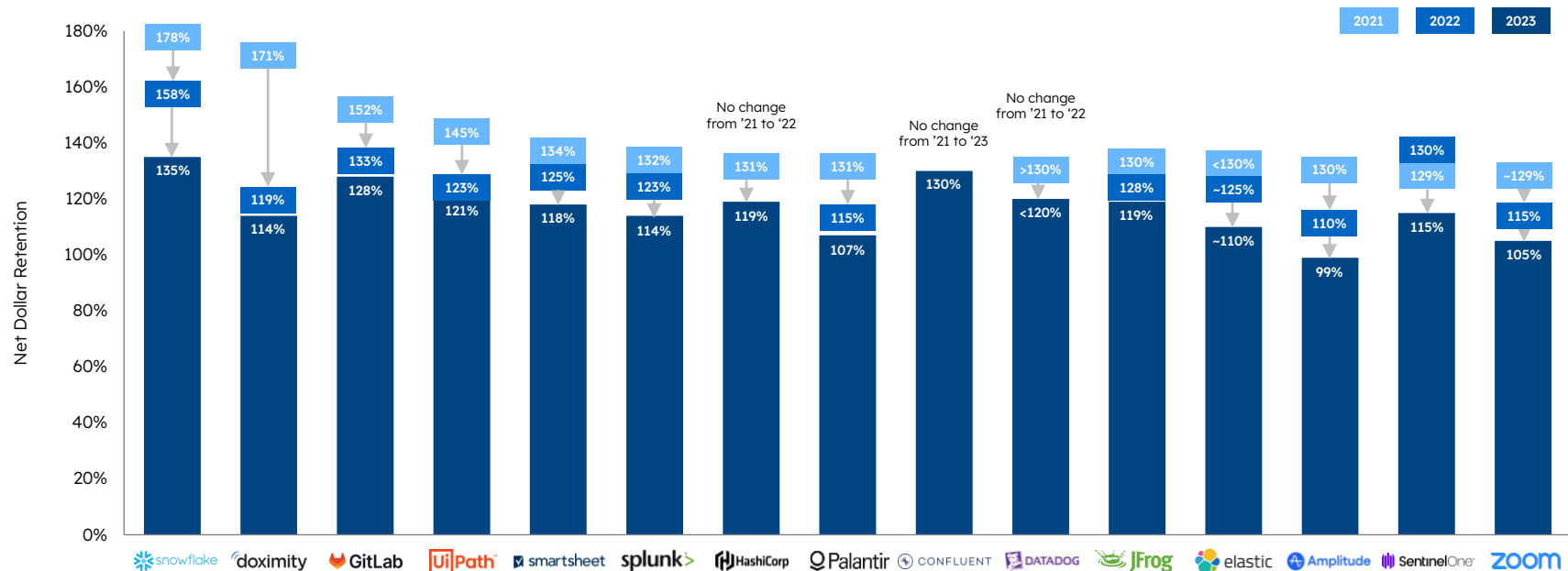


- The “Year of Efficiency” was expressed in gross margins, with the **median level jumping to 77% after having held steady in the 71-73% range** over the last seven years
- Relatedly, the impact of cost optimization was a leading theme throughout the year for both the hyper-scalers and other infra players that provide consumption-based cloud services

Net dollar retention has declined or stayed the same for all 15 of the highest net dollar retention companies from 2021

Change in Net Dollar Retention for Top 10 2021 Net Dollar Retention Companies

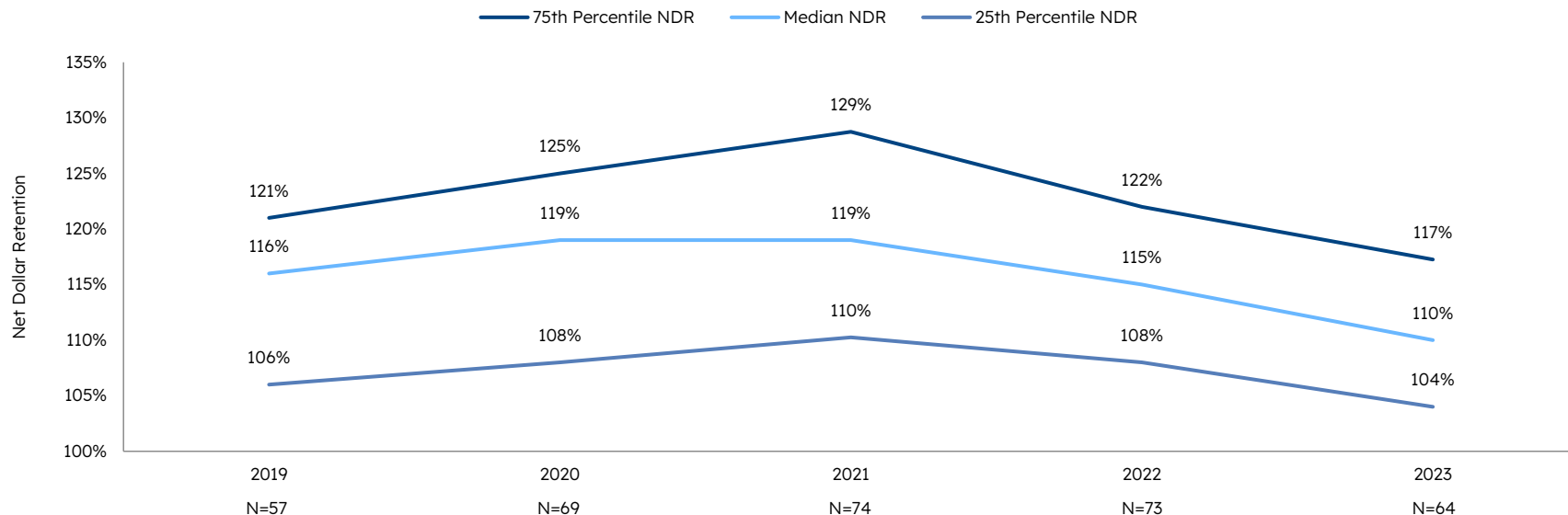
Sapphire Broad Software Index, 2021 – 2023



Net Dollar Retention reached five-year lows in 2023

Net Dollar Retention Over Time

Sapphire Broad Software Index, 2019 – 2023

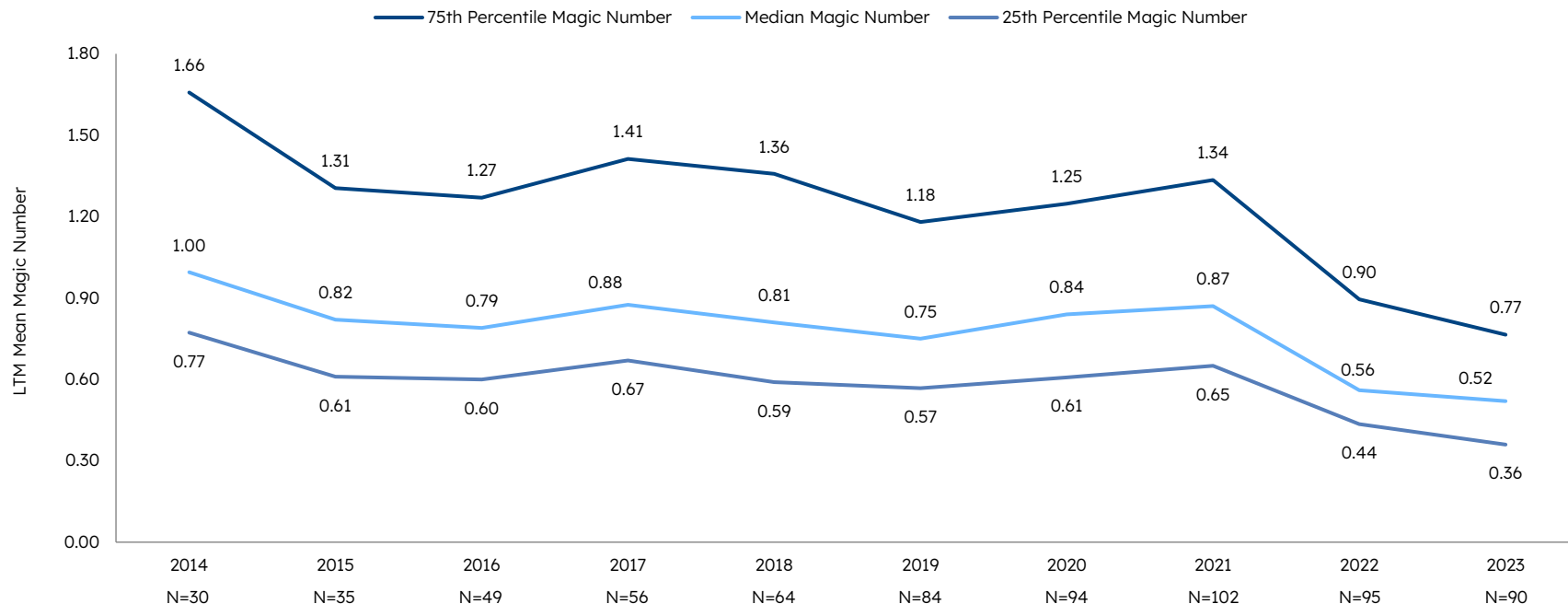


Cost optimization can cut both ways on SaaS metrics, so while Gross Margins climbed as companies cut costs, NDR fell to five-year lows given fewer “expand” opportunities

S&M efficiency fell to a 10-year low in 2023

LTM Mean Magic Number Over Time

Sapphire Broad Software Index, 2014 – 2023



SAPPHIRE

IV. Exits



EXITS

What Happened with Enterprise Software Exits in 2023

- Not that much happened in 2023 on the IPO front, as the window for companies to go public remained almost fully closed for a second consecutive year; Klaviyo was the only Enterprise Software company to list in 2023 – the sole SaaS listing from the past 24 months
- Performance of recent IPO cohorts kept pace with the Nasdaq during the 2023 rebound; however, they trailed the gains of the broader SaaS index
- While things can change quickly, we believe 2024 is looking like it will be another light year for IPOs as the bar for both scale and efficiency has been raised for companies seeking to test the public markets
- M&A saw more activity in 2023 with nearly \$260B in Enterprise Software transactions closing during the year – the fourth highest total on record – though a ~510 deal count fell to a decade low
- Q4 saw a spike in the backlog of announced but not yet closed M&A transactions, though value stayed flat as acquirers increased the velocity of smaller deal-making – a trend we expect to accelerate through 2024
- Private Equity pulled back significantly from their record-setting investment years in 2021 and 2022, though at \$45B, 2023 was the third-highest level of take-private activity in the past 10 years (trailing only 2022 and 2021)

Sources: Pitchbook data pulled data as of Dec. 31, 2023; Sapphire Internal Analysis (Jan. 2024)

Notes: Pitchbook data is updated on an on-going basis and is therefore subject to change; IPO data includes all

Enterprise Software non-SPAC IPO activity ex-China/HK listed on NYSE or Nasdaq; M&A data includes all Enterprise

Software M&A activity ex-China/HK for deals w/disclosed transaction size excluding add-ons

The State of the SaaS Capital Markets

Exits in 2023: By the Numbers

1

of Enterprise Software IPOs in 2023 vs. 0 in 2022 and 57 in 2021

-32%

Two-year stock price performance of the 2021 cohort of Enterprise Software IPOs

\$300M

What we believe is the minimum ARR bar for companies to IPO in 2024

\$258B

Total value of closed Enterprise Software M&A transactions

511

Total # of closed Enterprise Software M&A transactions

17.8x

Highest revenue multiple paid in a \$1B+ Enterprise Software transaction

88

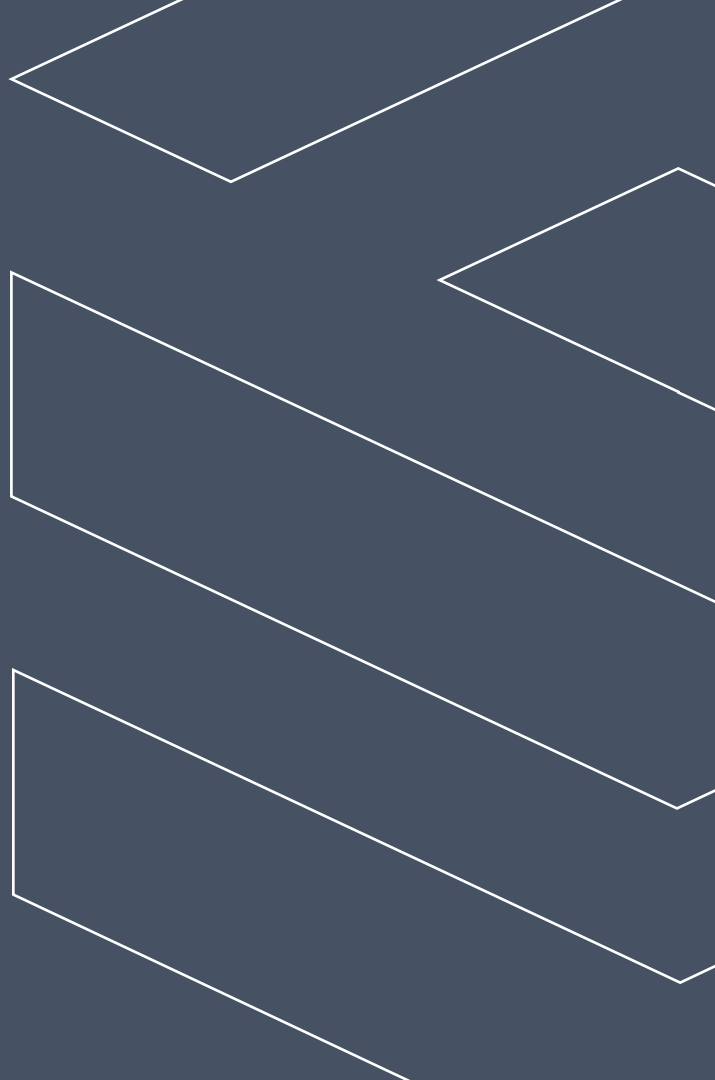
of announced but not yet closed M&A deals in Q4, the highest total since Q1 2022

25%

Average EBITDA margin for the seven PE take-private deals that closed at a 10x+ multiple

SAPPHIRE

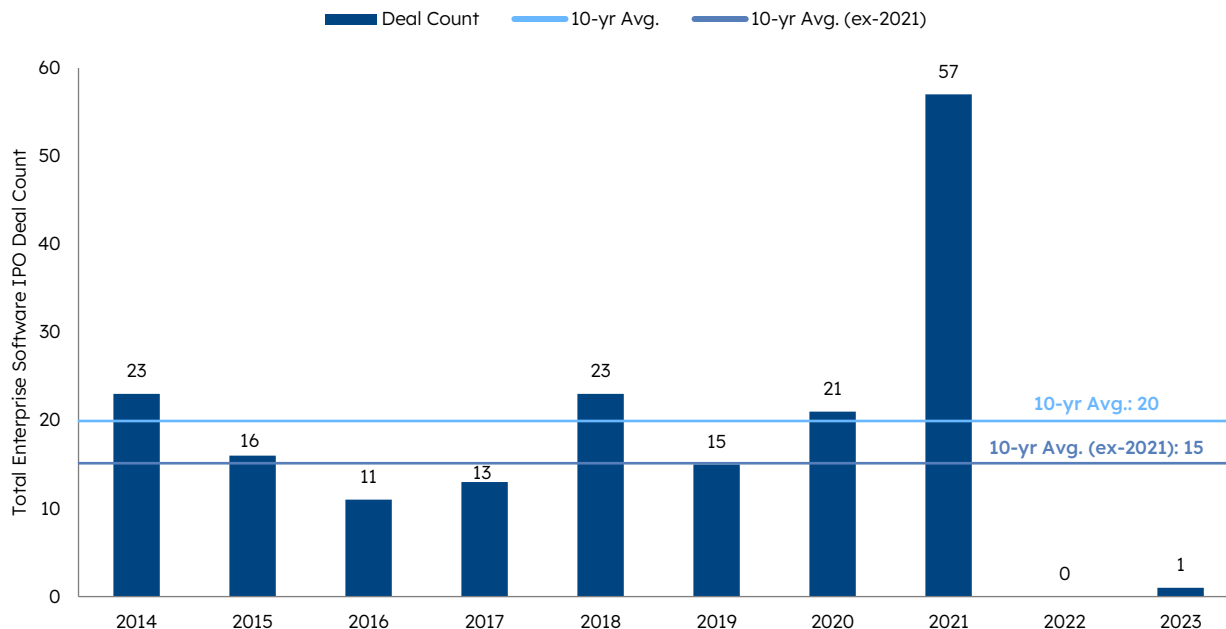
IPOs



The IPO market bottomed out in 2022 and 2023 following the 2021 market frenzy

Total Enterprise Software IPO Deal Count

Global (ex-China/HK) NYSE or Nasdaq IPOs (ex-SPACs), 2014 – 2023



- Klaviyo, which listed in Q3 2023, was the only Enterprise Software company to come public in the U.S. during the past two years
- With this lack of listings, the backlogs builds; however, with multiples lower, the IPO bar moved higher, resulting in fewer IPO-ready candidates amongst the ~550 Enterprise Software unicorns
- At the average annual IPO rate ex-2021, it would take ~37 years to clear the unicorn backlog; we expect M&A to fill the gap

While recent IPOs underperformed the Nasdaq over the last two years, all recent IPO cohorts returned 40%+ in 2023

Enterprise Software IPO Indices by Year, Nasdaq Composite and
Sapphire Broad Software Index

Global (ex-China/HK) NYSE or Nasdaq IPOs (ex-SPACs), 2022 – 2023

Group	2022 Performance	2023 Performance	2-Year Performance
Nasdaq	-33%	+43%	-4%
Sapphire Broad Software Index	-46%	+58%	-15%
2019 IPOs	-56%	+58%	-31%
2020 IPOs	-58%	+45%	-38%
2021 IPOs	-52%	+43%	-32%

- Many public market investors seek to add “alpha” to their holdings by buying IPOs and building a position over time
- Owning new IPOs did not work in 2021-2022, which greatly reduced investor interest in them
- However, 2023 returns for the three most recent IPO cohorts appear constructive, as 40%+ returns validate the resilience of these companies, though all three IPO cohorts still trail overall software returns

Analysts see a large backlog of strong IPO candidates waiting for conditions to stabilize and the IPO market to open back up

“[In] a typical year we see 35 to 40 technology IPOs. So, **there’s a huge backlog**. And I think the companies that are going to come out [and IPO] are going to be much larger scale. They are going to be much closer to profitability if not profitable. And so, **it’s easier for investors to lean into some of the businesses that will come out first part of the year.**”



Global Head of Technology
Investment Banking,

[Dec. 2023](#)

“All eyes are now on 2024, when **we expect more IPO activity given the large backlog of issuers who we see actively focused on public company readiness**, and continuing to drive improvements in their business models and metrics. We are cautiously optimistic a sustained re-opening of the IPO market is finally coming.”



U.S. IPO
Services Leader

[Dec. 2023](#)

“**I am more optimistic on the outlook for IPOs in 2024. . .** The environment for capital raising will be very robust – because it has to be, in the years ahead. We are in the age of innovation, of accelerating innovation. **All that innovation needs to be funded.**”



Co-Head of Global
Banking & Markets

[Dec. 2023](#)

“**Enthusiasm for IPOs is high** and smaller deals are emerging with improved after-market performance. . . Before monetary policy eases and the geopolitical climate stabilizes, **IPO candidates should keep their eyes on building fundamentals and managing price expectations** to capitalize on the fleeting windows as 2024 progresses.”



Global IPO
Leader

[Dec. 2023](#)

What do we believe will be required to IPO in 2024 and beyond?

Generally, we believe investment bankers seek to underwrite software IPOs with \$2B+ market capitalizations and long-term investors seek to build positions in companies at or above this same "mid-cap" threshold level

- As a result of overall lower multiples as compared to 2021 (and even 2018-2020), the revenue bar for software IPOs has increased from the ~\$200M level to the \$300M+ level to achieve \$2B valuation (10-12x vs. 7-8x)
- Additionally, IPO discounts have increased to compensate for liquidity and execution risks; this lowers revenue multiples at IPO and pushes the revenue level bar closer to \$400M (6-7x)
- Bankers also seek a "cushion" above a \$2B market cap to account for market volatility and any post-IPO execution miscues
- While profitability at IPO is not likely to be an absolute requirement for high-growth IPOs (30%+), a reasonable burn rate, good "SaaS metrics" and a near-term path to profitability (less than four quarters out) will be required
- Comps matter: the market prefers IPOs that have large TAMs + similar metrics and business models to other successful public companies

Even for hyper-growth IPOs (45%+), gone are the days of "growth at all costs" without a line of sight to profits

"Down round" IPOs are ok so long as VCs waive preference; pricing the IPO at a market price is more important

Unit economics matter: higher GM, NDR and efficient customer acquisition all lead to IPOs that can be durable growers at "Rule of 40" +

SAPPHIRE

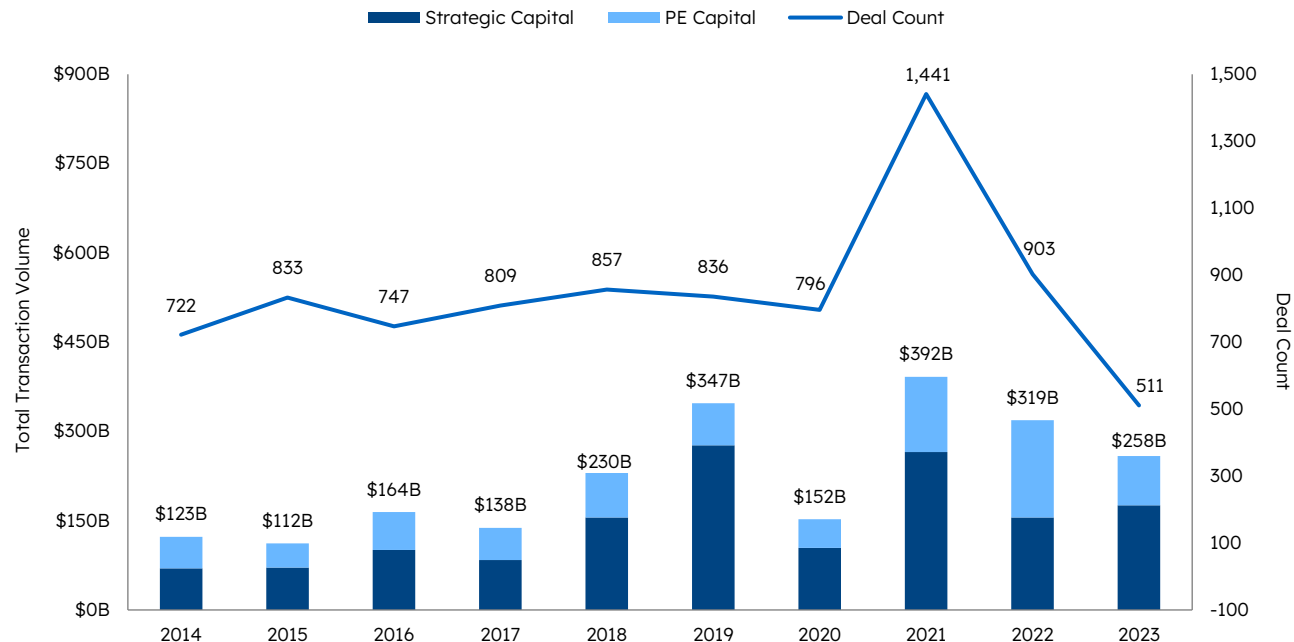
M&A



M&A activity slowed with both deal value (-19%) and deal volume (-43%) retreating for a second consecutive year

Enterprise Software M&A Activity

Global (ex-China/HK), 2014 – 2023

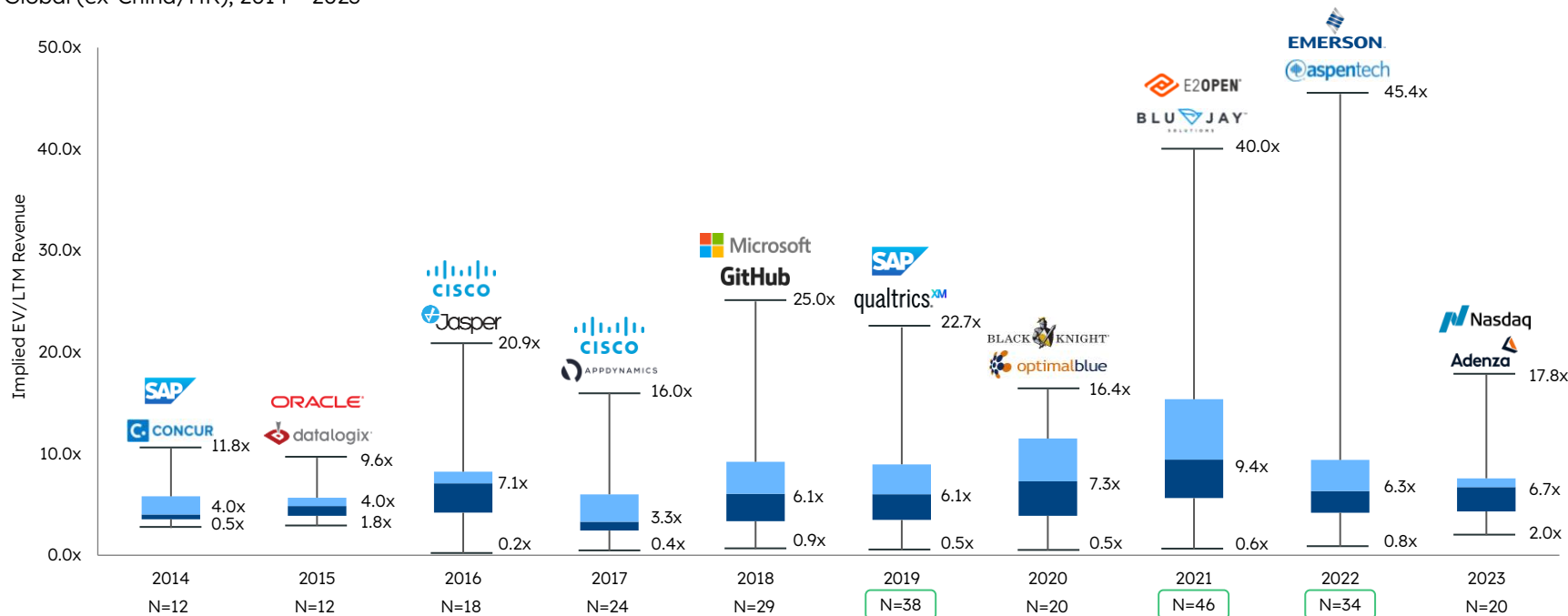


- Factors contributing to a down year in 2023 included: (1) higher interest rates, which limited PE activity, (2) valuation mis-alignment and (3) public companies focusing more on operational priorities (e.g., cost-cutting)
- We did see an uptick in Q4 M&A dealmaking, however, which we believe portends a more robust M&A exit environment in 2024, especially considering the higher IPO bar and material unicorn backlog

There were fewer \$1B+ deals in 2023; median and floor multiples increased and the spread on all deals compressed

\$1B+ Enterprise Software M&A Deals, Implied Enterprise Value/LTM Revenue

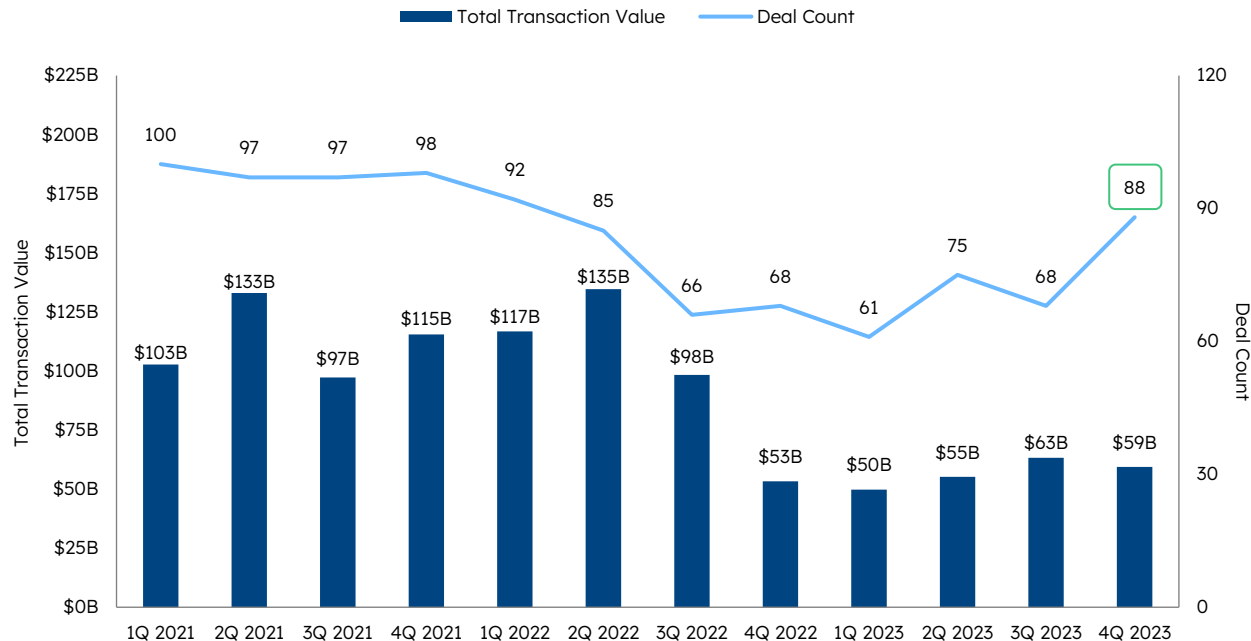
Global (ex-China/HK), 2014 – 2023



The end of 2023 saw an uptick in the backlog of transactions that were announced but have not yet closed

Enterprise Software M&A Transactions Announced but Not Closed; Ex-VMWare

Global (ex-China/HK), 2021 – 2023

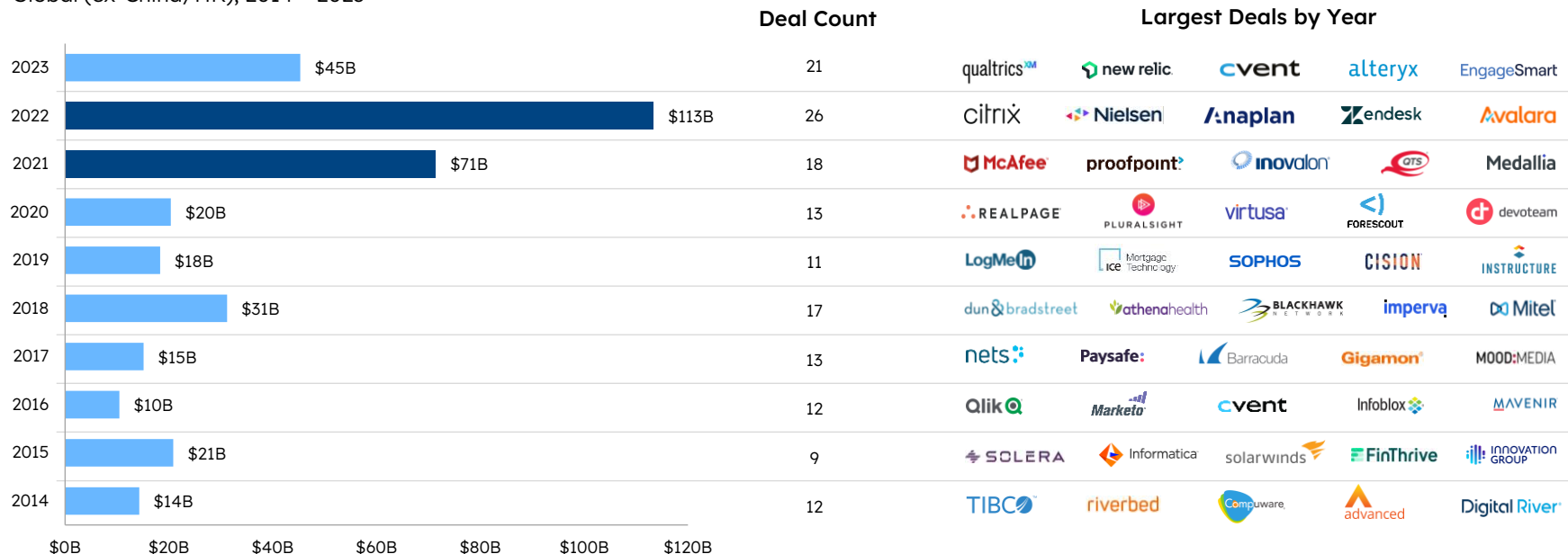


- Q4 2023 data is consistent with our thesis that small-to-medium-sized M&A deals will pick up in 2024, as potential acquirers are deterred from larger deals due to greater regulatory scrutiny
- Additionally, we believe this trend partially results from both public and late-stage private companies looking to add revenue scale via add-on M&A; good deals can create operational and GTM synergies and provide fuel to increase NDR

Take-private activity fell back after the two record years, though both deal count and value remained above historical averages

Largest Enterprise Software Take-Privates by Announced Date





Global (ex-China/HK), 2014 – 2023



Median \$1B+ take-private operating metrics, 2021-2023; 10X+ multiples require increasingly strong financial metrics

Median \$1B+ Enterprise Software Take-Private Financial Profiles

Global (ex-China/HK), 2021 – 2023

	0.0x-5.0x NTM Rev.	5.0x-7.5x NTM Rev.	7.5x-10x NTM Rev.	10x+ NTM Rev.
Company Count	12	10	12	7
NTM Rev. Growth	5%	11%	14%	20%
LTM Gross Margin	63%	74%	77%	77%
LTM EBITDA Margin	12%	14%	19%	25%
Representative Companies				

Technology market thought leaders are cautiously optimistic about the M&A environment improving in 2024

“Global M&A activity continues its downward march from record levels in 2021. . . Macroeconomic and regulatory challenges reinforce the trend, but a renewed focus on technology, particularly AI, **provides tailwinds for executives to reenter the M&A market in a big way next year.**”

Gartner.

VP and
Research Analyst



Nov. 2023

“**We’re relatively optimistic about the outlook for 2024**, as deal activity shows promising signs of recovery. That said, challenges for dealmakers remain – in particular, a higher cost of capital, which will push companies to consider large or transformational deals with an even greater scrutiny. This could mean **pursuing acquisitions, divestitures, and sometimes a combination of the two.**”

BCG

Global Head
of M&A



Oct. 2023

“The market is ripe for [M&A]. **I think a lot of companies are looking for dance partners right now . . .** The number of companies coming to us, looking to be acquired, has dramatically flipped from a year ago.”



CEO



Oct. 2023

“Many companies are more liquid than they have been in recent years, and **they are preparing to invest this capital once they can find an asset with compelling return. . .** CEOs have a strong appetite for M&A, but it’s contingent on their confidence that market conditions are stabilizing. . . **If the market finds its footing, we expect to see organizations restart their inorganic growth plan.**”























Global Head of
Advisory



Oct. 2023

Largest software M&A transactions announced in 2023

Company	Acquirer	Category	Type	Deal Size	Date Announced
 splunk	 CISCO	Cybersecurity / Observability	Strategic	\$28.0B	Sep 21, 2023
 worldpay	 GTCR	Payments	Financial	\$12.7B	Jul 6, 2023
 qualtrics	 SILVER LAKE CPP Investments	Customer Experience Management	Financial	\$12.5B	Jun 28, 2023
 Adenza	 Nasdaq	Financial Risk Management	Strategic	\$10.5B	Jun 12, 2023
 new relic	 FP PARTNERS TPG	Observability	Financial	\$6.5B	Jul 31, 2023
 SimCorp	 DEUTSCHE BÖRSE GROUP	Investment Management	Strategic	\$4.6B	Apr 27, 2023
 APPTIO	 IBM	Technology Spend Management	Strategic	\$4.6B	Jun 26, 2023
 cvent	 Blackstone	Event Planning and Management	Financial	\$4.6B	Mar 14, 2023
 alteryx	 INSIGHT PARTNERS DEEPCAPITAL	Data Analytics & Visualization	Financial	\$4.4B	Dec 18, 2023
 EngageSmart	 VISTA EQUITY PARTNERS	Customer Engagement & Payments	Financial	\$4.0B	Oct 23, 2023

- Top 10 dealmaking was fairly consistent throughout the year
- More than half of the top 10 M&A deals in 2023 were sponsor take-privates, as PE firms sought to deploy significant dry powder
- Observability and Fintech & Payments were important themes, representing more than half of the top 10 deals

SAPPHIRE

V. Appendix



Sapphire Broad Software Index constituents

SaaS 7

Biz Apps (Back Office)	Biz Apps (Front Office)	Collaboration Software	Commerce	Data & Analytics	Dev Ops & Infrastructure	Security	Vertical Software
Oracle	Adobe	Atlassian	Shopify	Snowflake	Datadog	Palo Alto Networks	Veeva Systems
SAP	Salesforce	Zoom Video	Bill.com	Palantir	Dynatrace	CrowdStrike	Axon
ServiceNow	HubSpot	Dropbox	SPS Commerce	MongoDB	UiPath	Zscaler	Samsara
Workday	AppLovin	Monday.com	Wix	Splunk	Twilio	Cloudflare	Tyler Technologies
DocuSign	ZoomInfo	Smartsheet	Squarespace	Open Text	Nutanix	Okta	Bentley Systems
Paycom	Klaviyo	Asana	Lightspeed POS	Confluent	Elastic	CyberArk	Aspen Technology
Ceridian	Freshworks	Box	Flywire	C3.ai	GitLab	SentinelOne	Procore
Paylocity	DoubleVerify	RingCentral	EverCommerce	Alteryx	HashiCorp	Qualys	Toast
Workiva	Five9	Weave	MeridianLink	LiveRamp	EngageSmart	Tenable	AppFolio
Clearwater Analytics	Braze	8x8	VTEX	Amplitude	JFrog	Varonis	Doximity
Pegasystems	Sprout Social	Bandwidth	BigCommerce	Informatica	DigitalOcean	Rapid7	Blackbaud
Paycor	Sprinklr	LivePerson		Couchbase	n-able	TeamViewer	Instructure
BlackLine	Appian			SimilarWeb	Progress Software	Fastly	PowerSchool
AvidXchange	Integral Ad Science			Domo	Jamf	SecureWorks	nCino
Paymentus	SEMRush				PagerDuty		Intapp
Yext	Zeta Global				SolarWinds		Q2 Holdings
Expensify	Zuora				Backblaze		Alkami
	Everbridge						LegalZoom
	WalkMe						Olo
	Enfusion						Blend Labs
	Riskified						CS Disco
	PubMatic						
	ON24						
	Kaltura						
	Upland Software						
	Viant Technology						

Sources: S&P Capital IQ data pulled as of Dec. 31, 2023; Sapphire Internal Analysis (Jan. 2024)

Notes: Sapphire Broad Software Index includes 132 Sapphire-selected Enterprise Software companies; multiples and margins based on total reported revenue for all companies, not just software revenue (e.g., Toast revenue includes software, transaction-based fees, hardware, and services); Sapphire Broad Software Index includes companies where acquisitions have been announced but have not yet closed (e.g., Splunk, EngageSmart and Alteryx); names sorted by market cap as of Dec. 31, 2023

Sapphire Capital Markets & Strategy Teams

Sapphire seeks to provide best-in-class value-add services to our portfolio companies, with a goal of helping them increase revenue growth and optimize valuation.

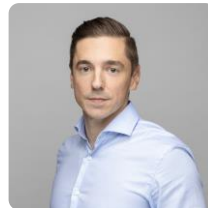
We have staffed a full capital markets and strategy team to advise founders, CEOs and CFOs on capital raising, exit opportunities, IPO preparation, strategic positioning and corporate development matters.



Steve Abbott

Partner,
Head of Capital Markets

steve@sapphireventures.com



Kevin Burke

Partner,
Head of Strategy & Research

kburke@sapphireventures.com



Meghann Shacklette

Director,
Strategy



Jake DellaPasqua

Associate,
Strategy

Important Disclaimers

Nothing presented herein is intended to constitute investment advice, and under no circumstances should any information provided herein be used or considered as an offer to sell or a solicitation of an offer to buy an interest in any investment fund managed by Sapphire Ventures, LLC ("Sapphire"). does not solicit or make its services available to the public. Prospective investors may rely only on a fund's confidential private placement memorandum or an official supplement thereto. An investment in a Sapphire fund is speculative and involves a high degree of risk.

Information provided reflects Sapphires' views at a point in time. Such views are subject to change without notice; as of January 30, 2024, unless otherwise noted.

Certain information contained in this presentation including any prediction or projection may constitute "forward-looking statements," which can be identified by the use of forward-looking terminology such as "may," "will," "should," "expect," "anticipate," "target," "project," "estimate," "intend," "continue" or "believe," or the negatives thereof, or comparable terminology. Due to various risks and uncertainties, actual events or results, or the actual results may differ materially from those reflected or contemplated in such forward-looking statements, and no assumptions should be made that any such strategy or investments were or will be profitable. Sapphire provides no assurance or no guarantee that any such prediction will ultimately occur.

This Presentation has been prepared from original sources, or other cited data, and is believed to be reliable. However, no representations are made as to the accuracy or completeness thereof. The information in this Presentation is not presented with a view to providing investment advice with respect to any security, or making any claim as to the past, current or future performance thereof, and Sapphire expressly disclaims the use of this Presentation for such purposes. The inclusion of any third-party firm and/or company names, brands and/or logos does not imply any affiliation with these firms or companies. None of these firms or companies have endorsed Sapphire or its affiliates. References to specific companies in this Presentation are for illustrative purposes only and should not be considered a recommendation to carry out securities transactions. It should not be assumed that recommendations made in the future will be profitable or will equal the performance discussed herein.

"Internal Sapphire Analysis" described within respective graphs above refers to observations of the "Sapphire Internal Public SaaS Index" which is an internal paper composite maintained by Sapphire for informational purposes only and is in no way intended to constitute investment advice. The index consists of individual SaaS related public equities chosen at Sapphire's discretion. The index is not investable and does in no way represent any investment offering to be made in any fund managed by Sapphire. While Sapphire has used reasonable efforts to present observations from analysis of the index, Sapphire makes no representations or warranties as to the accuracy, reliability, or completeness of observations presented within any analysis described or the index itself. All metrics and observations described in relation to the index must be considered academic and hypothetical in nature and are in no way guaranteed in actual practice. While Sapphire has used reasonable efforts to obtain information from reliable sources, we make no representations or warranties as to the accuracy, reliability, or completeness of third-party information presented within the index or this article. No assurance can be given that all material assumptions have been considered in connection with the analysis of the index, therefore actual results may vary from those estimated therein and are subject to change. No assumptions should be made that any investments described above were or will be profitable.

The content in this Presentation has not been reviewed or approved by the Securities and Exchange Commission.

Past performance is not indicative of future results.

Thank you



SAPPHIRE