
Morningstar Unicorn Market Monitor: Q4 2022

Innovation economy expands as unicorns brace for a reset in valuations.

Morningstar Research

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Introduction

In each year over the past two decades, more money has been raised in private markets than in public markets. This trend defied even the tumult of 2022 as venture-backed companies raised billions despite economic uncertainty. "Unicorns," or venture capital-backed private companies valued at \$1 billion or more, have grown to occupy a considerable share of institutional portfolios over the past decade, and many retail investors are beginning to make them part of their equity portfolio allocations. Unicorns continued to grow in number through 2022, reaching an aggregate post-money value of \$4.5 trillion.

To help investors make better sense of this burgeoning market, we are excited to present the first issue of Morningstar Unicorn Market Monitor. Leveraging the recently launched Morningstar PitchBook Global Unicorn Indexes, we provide a wealth of data-driven insights on the risks and rewards looming in the late-stage venture markets. The [Morningstar PitchBook Global Unicorn Indexes](#) dynamically track trends in this segment using a [proprietary mark-to-model pricing methodology](#), allowing investors to stay up to date on daily valuations based on private assessments as well as comparable public stock prices.

We would love to hear from you. Please send us your thoughts at UnicornIndexes@morningstar.com.

Key Takeaways

- ▶ The **Morningstar PitchBook Global Unicorn 500** and **Morningstar PitchBook US Unicorn 100** indexes dropped 7.9% and 3.2%,¹ respectively, in 2022, outperforming their public market counterparts, which shrank by 17.9% and 19.4%. Private company valuations generally lag behind public equity prices. But so far into the economic downturn, venture capital markdowns have been lower than expected.
- ▶ The secular shift away from public markets continued in 2022. Venture-backed companies raised \$508.7 billion in 2022 compared with \$180 billion raised through public offerings, despite a slowdown in funding rounds in the second half of the year.
- ▶ The year 2022 was a tumultuous one for investors, as private market activity plummeted. Unicorn funding rounds dropped 67% from the first to the fourth quarter, and the number of unicorn IPOs greatly diminished: Just 27 global unicorns debuted on public markets in 2022.

¹The indexes' performance is calculated using a proprietary pricing model that incorporates past deals, private market comparables, and public market comparables.

- ▶ Nontraditional investors — corporate venture capital groups, hedge funds, mutual funds, and sovereign wealth funds — slowed their capital deployment to venture capital in 2022. In the fourth quarter, deals involving nontraditional investors reached their lowest quarterly value in three years, hindering access to a source of capital that drives unicorns' returns.
- ▶ The United States continues to be the leader of innovative businesses on a global scale with a 51% share of the **Morningstar PitchBook Global Unicorn Index's** weight. However, 2022 saw Asia take center stage when it came time for these unicorns' exits: An astonishing 26 of 27 IPOs were from Asian domiciles.

Market Insights

The Morningstar PitchBook Global Unicorn 500 Index dropped by 7.04% in 2022, outperforming the Morningstar Global Market Index, which lost 17.9%. Similarly, the Morningstar PitchBook Unicorn US 100 Index declined 3.16% compared with the 19.4% correction for the Morningstar US Market Index.

Exhibit 1 Trailing Returns %

Unicorn Indexes	Q4	1Y	3Y	5Y
Morningstar PitchBook Global Unicorn 500	4.03	-7.04	27.84	25.56
Morningstar PitchBook US Unicorn 100	1.93	-3.16	41.42	30.31
Morningstar PitchBook Asia Unicorn 100	13.85	-5.93	16.29	19.77
Morningstar PitchBook Europe Unicorn 50	-0.74	3.30	46.18	48.61
Global Market Indexes				
Morningstar Global Markets	10.09	-17.91	4.24	5.44
Morningstar US Market	7.26	-19.43	7.01	8.83
Morningstar Asia	11.69	-17.19	-0.36	0.39
Morningstar Europe	20.07	-17.70	0.79	1.89

The Morningstar PitchBook Global Unicorn Indexes were launched in November 2022. The performance inception date, when the first back-tested index values were calculated for the Morningstar PitchBook Global Unicorn Index, is Dec. 19, 2014.

Source: Morningstar. Data as of Dec. 31, 2022.

Although unicorn losses were smaller than those seen in public markets, a slowdown in deals in the fourth quarter may be an indicator that the effects of the bear market and macroeconomic headwinds may not yet be fully realized in the late-stage venture asset class. Many unicorns may have opted to take fiscal caution and avoid seeking new funding, which may potentially lower their valuations.

Two very different scenarios are emerging in the world of new funding. Companies that can bypass fundraising have opted to do so, as they don't want to risk a hit to their valuation marks. However, recent activities by Klarna and Shein prove there's still potential for dramatic fluctuations. Klarna, a Swedish fintech giant, which was the largest constituent of the Morningstar PitchBook Europe Unicorn

Index at the start of 2022, took an 85% haircut on its latest round. Chinese fast-fashion platform Shein had a staggering sevenfold spike and ended 2022 as the fifth largest constituent of the Morningstar PitchBook Global Unicorn Index.

In the fourth quarter, the largest regional jump for the Global Unicorn Indexes was the Asia Unicorn 100 Index, which rebounded nearly 14%. Markets responded favorably to China's Covid Zero exit and a renewed commitment to ending a crackdown on the tech sector.

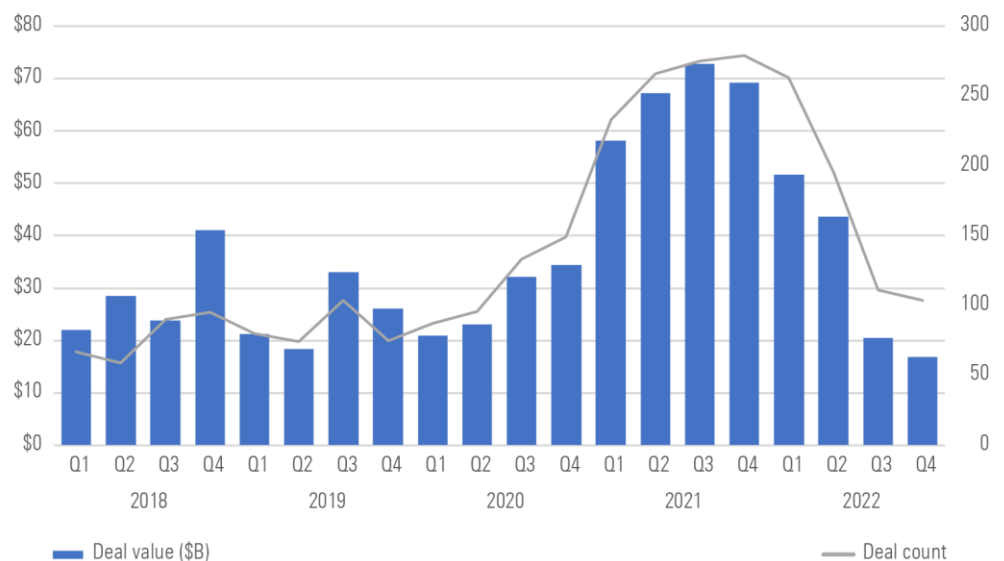
Cryptocurrency took the biggest blow of all industries, with Bitcoin dropping a staggering 60%. FTX, valued at \$32 billion in January, filed for bankruptcy in November after the exchange was brought down by fraud. Celsius and BlockFi were the other major unicorns to go out of business.

While the Unicorn Indexes' returns were down for the year, the size of the asset class grew during 2022. The year ended with 1,217 unicorns in the Morningstar PitchBook Global Unicorn Index, up from 1,030 at the start of the year, and with \$4.5 trillion in aggregate post-money valuation. A staggering \$508.7 billion poured into global venture-backed companies compared with \$178 billion raised through public markets.

New Deal Flow Slows to Prepandemic Levels

Unicorn fundraising in 2022 was down from its record heights in 2021 but still logged its second-highest year. Globally, new venture-backed deals were heavily concentrated in the first half of the year. They dropped from an aggregate value of \$52 billion in the first quarter to \$17 billion in the fourth quarter.

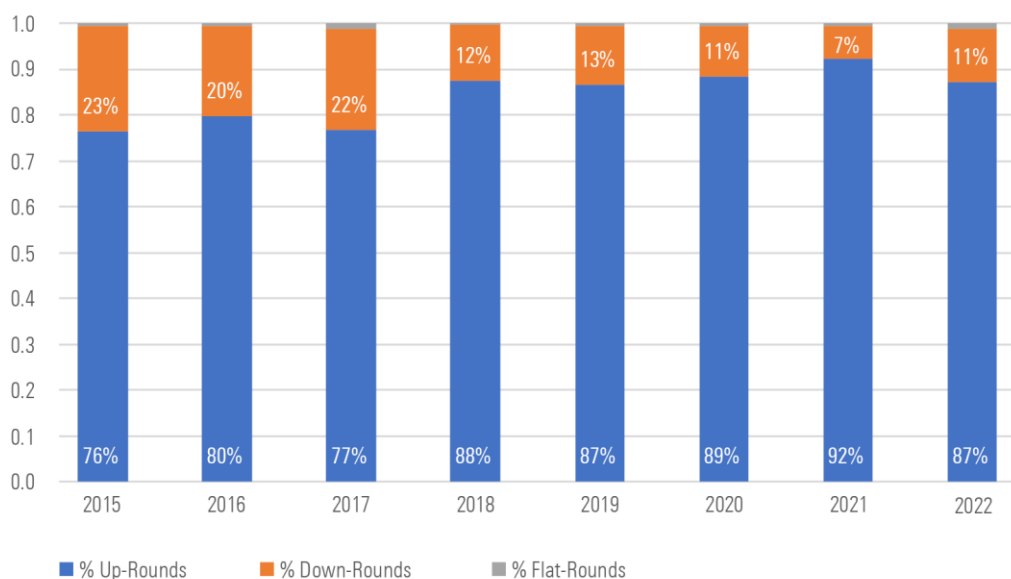
Exhibit 2 Unicorn Deals by Quarter



Source: PitchBook. Data as of Dec. 31, 2022.

Like the pace of deals, the percentage of up rounds came down from 2022 highs. Nevertheless, investors showed confidence in many established unicorns. For the constituents of the Morningstar PitchBook Global Unicorn Index that raised money in 2022, 87% had up rounds and just 11% had down rounds. For U.S. unicorns established before the start of the year, 94% had up rounds in 2022.

Exhibit 3 Percentage of Up/Flat/Down Valuations by Year



Source: Morningstar. Data as of Dec. 31, 2022.

The Innovation Economy in Turbulent Times

Unicorns provide a window into the innovation economy, and, during a challenging year, investors still expressed confidence in the business models of many unicorns, although focus shifted toward profitability rather than revenue growth. The most noteworthy unicorn up round of 2022 was the Chinese fast-fashion giant Shein. In its latest funding round in October, Shein's post-money valuation was 7 times greater than its previous round and was 2022's highest in both multiple and raw valuation increase. Shein's post-money valuation of \$100 billion makes it now the fifth-largest privately held venture-backed firm.

Personio, a German human resources tech firm, and VillageMD, a U.S. healthcare management services firm, had the second and third highest step-up multiples. Personio's human resources tools found product-market fit with small and mid-sized businesses with remote or distributed teams. Investors also expressed confidence in VillageMD's business model, which seeks to transform home-based healthcare. Both unicorns garnered up rounds in the second quarter of 2022, dramatically increasing their valuations even as the flow of venture capital fundings rounds were beginning to dry up.

Although the cryptocurrency market lost more than \$2 trillion in 2022, crypto and crypto-adjacent firms claimed four of the top 10 up rounds by step-up multiple (as shown in Exhibit 4). Morningstar PitchBook Global Unicorn Index constituents Fireblocks, Dapper Labs, Alechemy Insights, and Blockchain.com substantially increased their post-money valuations in the first quarter. However, things turned bleak in the latter half of the year, as Bitcoin crashed 60% in 2022. FTX, which was valued at \$32 billion in January, filed for bankruptcy in November amid a fraud scandal. Celsius Network and BlockFi were the other notable firms that left the Morningstar PitchBook Global Unicorn Index after filing for bankruptcy.

Exhibit 4 Largest Up Rounds for Morningstar PitchBook Global Unicorn Index Constituents in 2022

Unicorn	Step-Up Multiple	Latest Funding Round Date	Latest Post-Money Valuation (\$B)	Country	Primary PitchBook Vertical
SHEIN	6.67	10/07/22	100.00	China	E-Commerce
Personio	5.00	06/21/22	8.50	Germany	HR Tech
VillageMD	4.61	04/01/22	15.76	US	HealthTech
Fireblocks	3.64	01/27/22	8.00	US	Cybersecurity
Doctolib	3.57	03/15/22	6.46	France	HealthTech
1Password	3.40	01/19/22	6.80	Canada	Cybersecurity
Dapper Labs	3.02	03/04/22	7.60	Canada	AI & ML
Alechemy Insights	2.94	02/08/22	10.45	US	Fintech
Creditas	2.74	01/21/22	4.80	Brazil	Fintech
Blockchain.com	2.69	03/17/22	14.00	UK	Fintech

*Step-Up Multiple is the increase in a company's valuation, calculated by dividing a company's post-money valuation at a round by its post-money valuation at its previous funding round.

Source: Morningstar. Data as of Dec. 31, 2022.

The Swedish firm Klarna, a pioneer in the buy-now-pay-later space, raised \$800 million in fresh funding at a \$6.7 billion valuation, down sharply from \$45.6 billion a year ago. Once the most valuable venture-backed company in Europe and the largest constituent in the Morningstar PitchBook Europe Unicorn Index, its 85% drop represents the biggest loss in absolute valuation in 2022. It is worth noting that when private firm Klarna announced its down round, its publicly traded competitor Affirm had seen an almost identical share price slide over the preceding months. This exemplifies the interconnectedness between late-stage unicorns and their public market comparables.

Several U.S. firms struggled as well. Artificial intelligence and machine learning firm Quanergy, cloud technology firm Outsystems, and gaming firm Epic Games had significant down rounds. Carbon Health lost more than half of its value in April, though an up round later in the year brought its valuation closer to 2021 levels. Of the 10 largest valuation markdowns, only Quanergy was removed from the global and U.S. indexes.

Exhibit 5 Largest Down Rounds for Morningstar PitchBook Global Unicorn Index Constituents in 2022

Unicorn	Valuation Markdown (%)	Latest Funding Round Date	Latest Post-Money Valuation (\$B)	Country	Primary PitchBook Vertical
Klarna	-85.3	07/11/22	6.7	Sweden	Fintech
Meesho	-62.3	07/11/22	1.9	India	E-Commerce
Quanergy Systems	-62.0	02/08/22	0.9	US	AI & Machine
Gorillas	-60.0	12/09/22	1.2	Germany	Mobility Tech
Cars24	-57.1	06/24/22	1.4	India	Mobility Tech
Carbon Health	-56.7	04/28/22	1.3	US	HealthTech
OutSystems	-54.1	10/01/22	4.4	US	CloudTech & DevOps
Epic Games	-25.0	04/11/22	31.5	US	Gaming
ServiceTitan	-22.5	11/22/22	7.4	US	Fintech

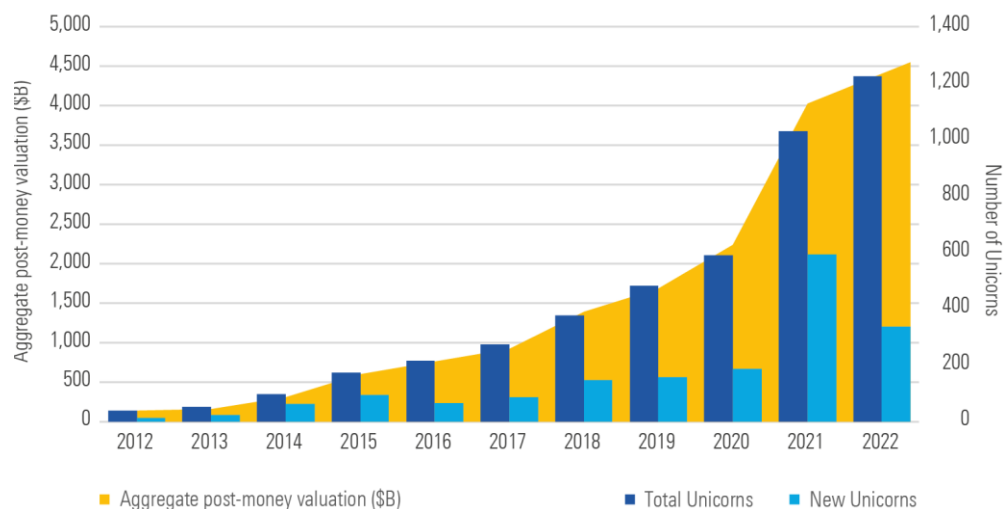
*Valuation Markdown % is the decrease in a company's valuation. It is calculated by subtracting a company's post-money valuation at a round from its post-money valuation at the previous funding round and then dividing the result by the first post-money valuation to express a percentage.

Source: Morningstar. Data as of Dec. 31, 2022.

Unicorn Growth Slows

The number of newly minted unicorns continued to grow in 2022, albeit at a slower rate than the previous year. A total of 330 new unicorns entered the Morningstar PitchBook Global Unicorn Index in 2022 compared with 591 in 2021. The cumulative valuation at point of creation for unicorns minted in 2022 is more than \$556 billion, second only to 2021's total of \$1.2 trillion. Unicorn fundraising became much more challenging in 2022, particularly for companies seeking the type of outsized rounds that became the norm in 2021. It is common for late-stage private companies to cautiously avoid seeking new funding if it would result in a lower valuation. While this may be prudent in the short term, the inability of these firms to access public market capital can make this strategy unsustainable.

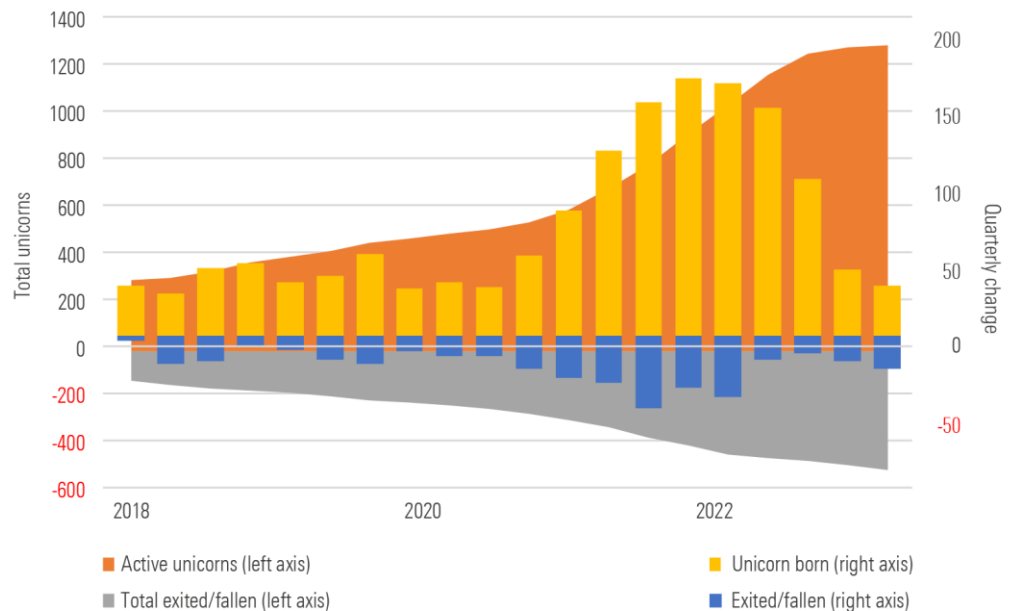
In aggregate, most indicators of market activity in 2022 remained at or near record highs, but activity dropped off steeply between the first and last quarters of 2022. Of the 330 venture-backed companies that attained unicorn status in 2022, just 34 were established in the fourth quarter. Roughly a quarter of all unicorn startups have a valuation of less than \$1.2 billion, meaning these companies are at substantial risk of losing their designation should they incur a down round. If the creation of new unicorns continues to slow and public markets continue to slide, investors may see a thinning of the unicorn herd for the first time in 2023.

Exhibit 6 Growth of Global Unicorns by Numbers and Assets

Source: PitchBook. Data as of Dec. 31, 2022.

Exits Take a Hit, Making Fundraising Challenging

Venture-backed firms were forced to adapt to a steep descent in exit activity, especially in IPOs. After years of sky-high valuations and successful public offerings, the venture capital market took a breather in 2022. Investors increased their expectations for profitability, which can be a difficult adjustment for companies that were built on a growth-at-all-cost mindset. The PitchBook VC Backed IPO Index, a proxy for recent IPOs of companies backed by venture capital, plummeted 62% in 2022. In an environment of rising interest rates and fewer paths to exit, an era of easy money for unicorns is likely coming to an end.

Exhibit 7 Global Unicorn Market Growth

Source: PitchBook. Data as of Dec. 31, 2022.

Nontraditional Venture Capital Deals Are Slowing Down

Nontraditional investors—an umbrella term that includes corporate venture capital groups, mutual funds, hedge funds, and sovereign wealth groups—which have been instrumental in venture capital deal activity in recent years, slowed their capital deployment amid a risk-off environment. Demand from these comparatively deep-pocketed investors is a key driver for the valuation and returns of late-stage private companies.

Nontraditional investors participated in 34% of deal count in 2022, and 77% of deal value. In the fourth quarter, deals involving nontraditional investors dipped to just \$24 billion, their lowest quarterly value in three years. According to PitchBook data, not only has there been a decline in the size of deals, but there are also fewer nontraditional participants within the venture ecosystem. If this trend continues, it will have a profound impact on the unicorn market, which has been, compared to other stages of startup development, disproportionately funded by the massive amounts of capital that can be deployed by nontraditional investors in single deals.

Unicorn Creation Uneven Across Regions

While unicorn creation and exits slowed significantly in the fourth quarter, this slowdown was not uniform across all major regions. Seventeen unicorns were created in the U.S., 10 in Asia, and three in Europe. But Asia was by far the strongest region for exits. Of the 27 IPOs tracked in 2022, 26 were constituents of the Morningstar PitchBook Asia Unicorn index and one was a constituent of the

Morningstar PitchBook US Unicorn Index. The relative strength of Asia's unicorns can also be seen in market cap: Asian unicorns were the largest, with an average market cap of \$4.6 billion.

Exhibit 8 Growth of Unicorns by Region Measured by Index Constituents

Index	Total Unicorns	New Unicorns 2022	New Unicorns Q4	IPOs 2022	IPOs Q4	Avg Valuation (\$B)	Total Valuation (\$B)
Morningstar PitchBook Global Unicorn	1,217	330	34	27	5	3.7	4,511
Morningstar PitchBook US Unicorn	668	183	17	1	1	3.5	2,317
Morningstar PitchBook Asia Unicorn	340	77	10	26	4	4.6	1,559
Morningstar PitchBook Europe Unicorn	120	37	3	0	0	3.2	381

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 9 Performance for Morningstar PitchBook Global Unicorn Indexes: Return %

	Q4	1Y	3Y	5Y
Morningstar PitchBook US Unicorn	1.90	-1.02	42.19	31.32
Morningstar PitchBook US Unicorn 100	1.93	-3.16	41.42	30.31
Morningstar PitchBook Global Unicorn	3.89	-5.13	28.78	26.14
Morningstar PitchBook Global Unicorn 500	4.03	-7.04	27.84	25.56
Morningstar PitchBook Asia Unicorn	8.03	-10.70	15.10	18.69
Morningstar PitchBook Asia Unicorn 100	13.85	-5.93	16.29	19.77
Morningstar PitchBook Europe Unicorn	0.54	-0.70	41.22	46.74
Morningstar PitchBook Europe Unicorn 50	-0.74	3.30	46.18	48.61
Morningstar PitchBook China Unicorn 50	30.89	4.53	15.93	21.52
Morningstar PitchBook India Unicorn 25	-6.66	0.25	14.77	NA
Morningstar PitchBook UK Unicorn 20	2.66	13.24	68.23	NA

Source: Morningstar. Data as of Dec. 31, 2022.

Glossary

Deal, or Funding Round: A discrete round of investment in which a business raises money to fund operations or growth in exchange for equity or an ownership stake. In venture capital investing, each funding round after the initial seed investment is given a series letter, beginning with A.

Down Round: A funding round in which a company is determined to have a lower valuation than it had at the previous round.

Exit: A liquidity event for a private company, which can take the form of an initial public offering, a merger, or an acquisition.

Initial public offering: A company's debut on a public stock exchange, marking its transition from private to public company; at that point, the general population can invest in it.

Late-stage venture capital: A period of venture capital investment (usually after a Series C funding round), when companies have increased revenues and are near exit?"

Mergers and acquisitions: A merger is a financial transaction that results in the combining of two companies to form a new company. An acquisition, on the other hand, occurs when one company buys another company and folds it into its operations.

Nontraditional investors: Investors other than venture capital firms that invest in venture-backed companies. These include corporate venture capital groups, hedge funds, mutual funds, and sovereign wealth funds.

Post-money valuation: A company's dollar value as determined as inclusive of new capital invested in the round.

Pre-money valuation: A company's dollar value as determined as excluding new capital invested in the round.

Step-up multiple: The percentage increase in a company's valuation, calculated by dividing a company's post-money valuation at a round by its post-money valuation at its previous funding round.

Unicorn: A venture capital backed company with a post-money valuation of \$1 billion or more.

Up Round: A funding round in which a company is determined to have a higher valuation than it had at the previous round.

Valuation: A determination of a company's current dollar value based on a variety of factors, including capital and ownership structure. Often (though not always) each round of investor funding increases a

company's valuation, which is why valuations are often referred to as pre- or post-money ("money," in this case, refers to a round of funding).

Valuation Markdown %: The percentage decrease in a company's valuation. It is calculated by subtracting a company's post-money valuation at a round from its post-money valuation at the previous funding round, and then dividing the result by the first post-money valuation.

Venture capital: A form of financing where capital is invested into a company, usually a startup or small business, in exchange for equity in the company. It is a major subset of a much larger, complex part of the financial landscape known as private markets.

About Morningstar PitchBook Global Unicorn Indexes

The Morningstar PitchBook Global Unicorn Indexes track privately held, late-stage venture capital-backed companies with post-money valuations of at least \$1 billion. Index constituents are derived from PitchBook's global database of venture capital-backed companies, and the index methodology employs a proprietary three-factor pricing model to estimate daily valuations. The Indexes deliver timely insights and unprecedented transparency into the performance and behavior of global unicorns. Email UnicornIndexes@morningstar.com for more information.

About Morningstar Indexes

Morningstar Indexes was built to keep up with the evolving needs of investors — and to be a leading-edge advocate for them. Our rich heritage as a transparent, investor-focused leader in data and research uniquely equips us to support individuals, institutions, wealth managers and advisors in navigating investment opportunities across major asset classes, styles and strategies. From traditional benchmarks and unique IP-driven indexes to index design, calculation and distribution services, our solutions span an investment landscape as diverse as investors themselves.

For More Information

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