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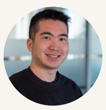

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Contents



# When Dry Powder Stays Dry

## Examining the bid-ask imbalance in VC

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

## Key takeaways

- In Q4 2022, the estimated amount of capital demanded by US startups has outpaced the capital supplied by $42.8 billion. This equates to 2.1x more capital demanded than supplied.

- The bid-ask imbalance has hit all three stages of the US venture market, with our estimations indicating that capital demand is outpacing supply by 50.5% for the early stage, 148.5% for the late stage, and 67.1% for venture growth.

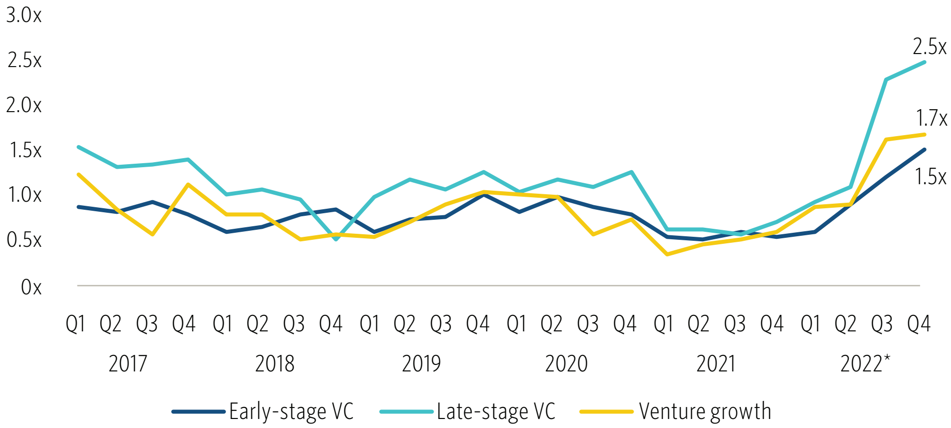
- The shift in the supply and demand of capital favors investors with dry powder, and this is translating to better investor deal terms relative to 2021.

## Overview

The public market volatility, persistent inflation, and action by the Federal Reserve impacted markets considerably in 2022. Gone are the days of sky-high valuations for startups and easy fundraising opportunities as LPs increased allocations to venture capital. Investor protections have increased, and sentiment for the startup market has been crushed. However, for those looking at record-high dry powder and still-elevated dealmaking activity, there may be some confusion as to why the tea leaves have darkened. The answer, in part, lies in our new estimate of unfilled demand for capital by cash-burning startups. In the past, supply met demand for startups across all stages. However, after a difficult 2022, startups are seeking 50% to 150% more capital than venture capitalists have supplied. Understanding the implications of this imbalance will be key to navigating the year ahead.

### Estimated venture capital demanded to supplied multiple by quarter

*Capital demanded by startups has far exceeded capital supply, starving startups*

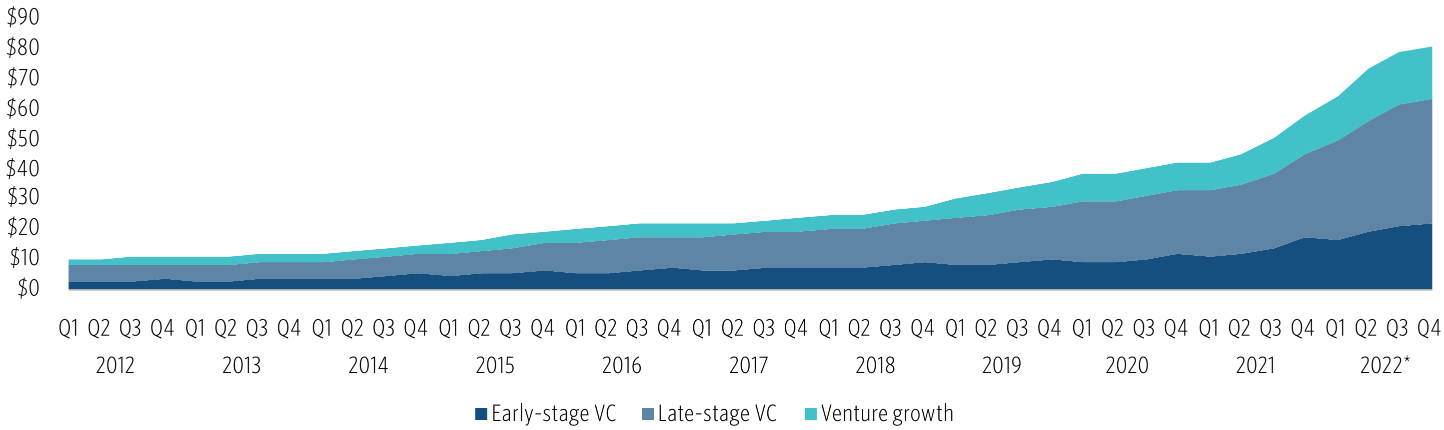



Source: PitchBook | Geography: US
*As of December 31, 2022

The growth-at-all-cost mindset fueled by cheap capital in 2020 and 2021 and exploding investor interest caused by a fear of missing out (FOMO) led to large investments into startups across all stages. Founders then took this money and used it to build out operations through headcount and other investments, with the expectation that capital would be available in the future to continue financing these expanded operations. We estimate this demand by analyzing the startup funding cycle through time. First, demand is calculated by estimating how much capital companies will raise in their next round and spreading that amount out by the historical probability of raising in the future. When we sum the capital demanded from each stage, we arrive at the aggregate demand for the US VC ecosystem. This aggregate demand had grown steadily before accelerating in the middle of 2021, culminating in a record $80.7 billion in 2022.

## Quarterly estimated venture capital ($B) demanded by stage

*Capital demanded by startups has increased recently*



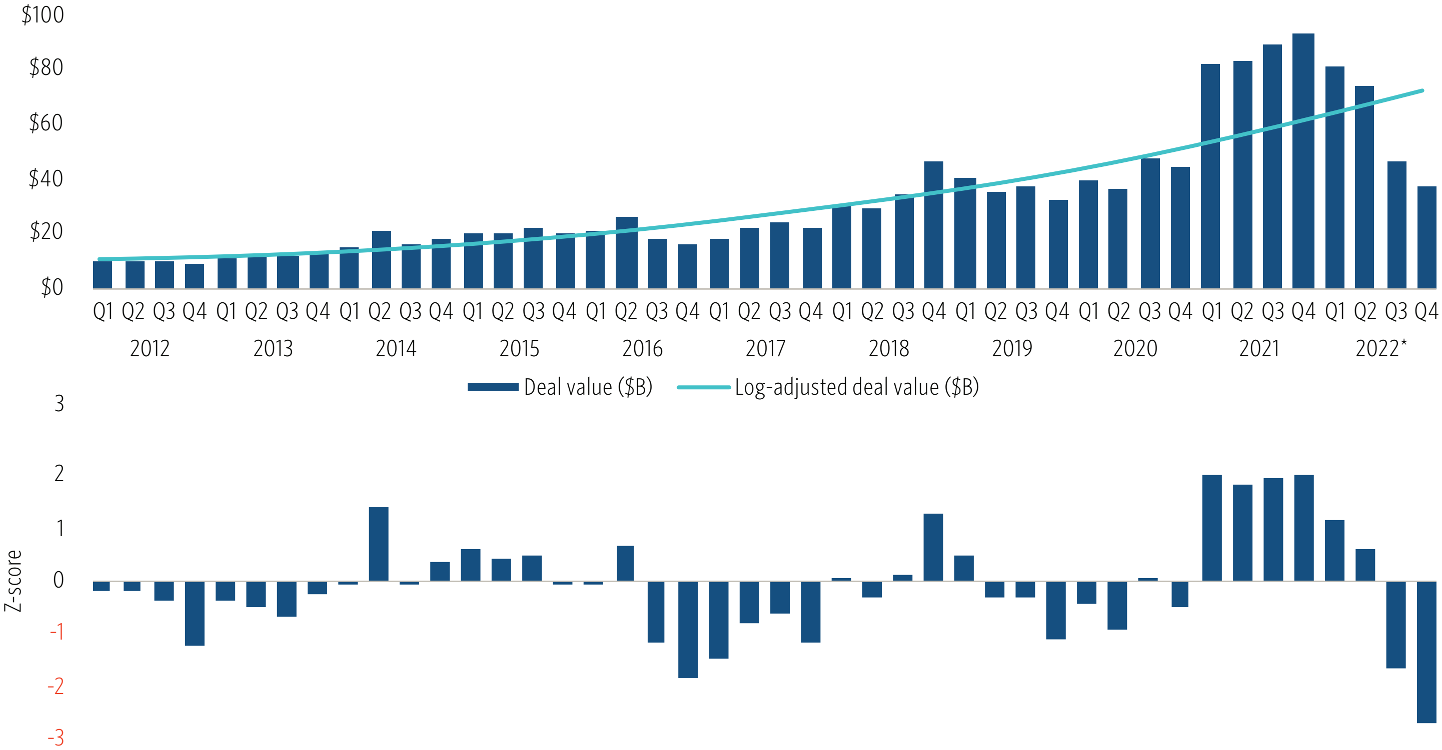

Source: PitchBook | Geography: US
*As of December 31, 2022

PitchBook's VC Dealmaking Indicator quantifies how friendly the venture capital dealmaking environment has historically been between startups and investors. It is constructed using deal terms, deal attributes, and the ratio of demand to supply of capital at each stage. We normalize and weight these terms accordingly, and this gives us a directional measure of the negotiating positions of GPs and startup founders. A high score indicates an investor-friendly market, and a low score indicates startup friendliness. Check out our VC Dealmaking Indicator data tracker, which is updated monthly.

Demand tells us only one side of the story, though. Understanding the supply of capital clarifies what happened to the VC market. In our previous methodology for the VC Dealmaking Indicator, we considered capital supply as PitchBook's estimated overhang for US VC from both traditional and nontraditional investors. We have since shifted to using the observed deal value instead. This new approach has several advantages. First, observed deals are captured in real-time, without the lag in data collection that overhang estimations suffer from. Second, dry powder only really matters if it's being spent. The record number of startups that hit the funding market in 2021 en masse is now starting to reach the end of their runways at the same time. Meanwhile, venture capitalists with capital to deploy are under less pressure to complete deals. In other words, the "bid" side of the market has shrunk, while the "ask" has been overloaded with startups looking to raise their next rounds of funding. By looking at completed deals, we can get a sense of the depth of the market relative to our estimate of total demand for capital by startups.

**VC deal value ($B) by quarter and Z-score of VC deal value above or below trend by quarter**

*Capital supplied by traditional and nontraditional investors in 2022 was below trend in Q3 and Q4*

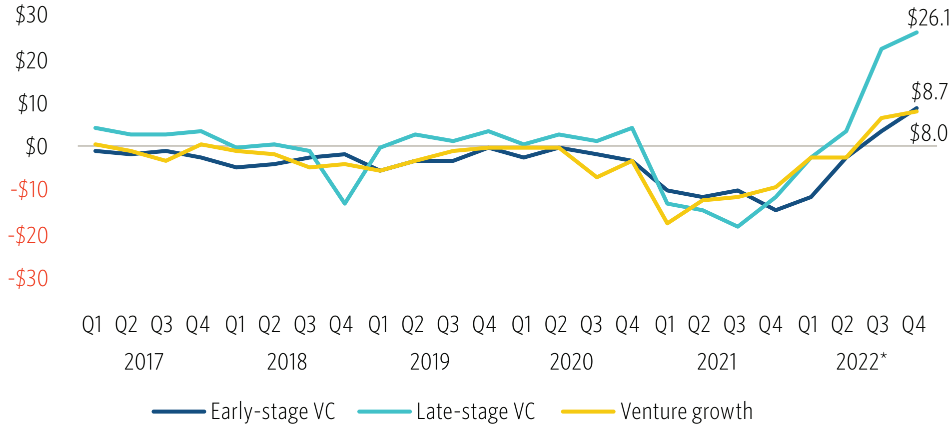



Source: PitchBook | Geography: US
*As of December 31, 2022

When we combine these two metrics, what happened in 2021 and 2022 crystallizes. While current deal value was in line with or above pre-pandemic levels, the demand for capital from startups far exceeded historical levels by $42.8 billion across all stages in Q4 2022. Supplied capital peaked in Q4 2021 at $94.0 billion before falling 59.7% from these highs in Q4 2022. This occurred while demand for capital increased 38.2% over the same period. US venture capitalists are pulling back from dealmaking and waiting to deploy their record $300 billion of dry powder until a more favorable dealmaking environment comes along. Startups are going to need to increase their runway by cutting costs and reducing headcount or by taking on more investor-friendly deal terms to get new capital injections.

### Venture capital ($B) demand above supply by stage

*Unfilled demand by US VC startups exploded in 2022*

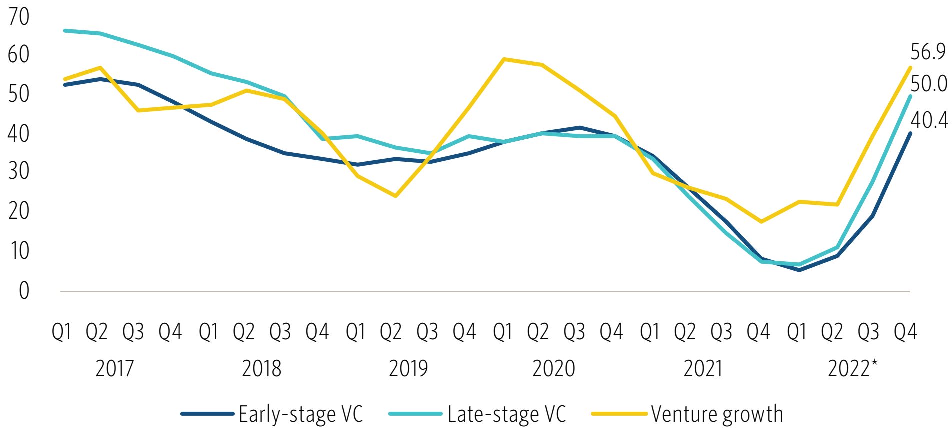



Source: PitchBook | Geography: US
*As of December 31, 2022

As we add the supply and demand imbalance to our VC Dealmaking Indicator, we see similar trends that vary in magnitude across stages. We recently introduced the venture-growth stage, which reclassifies some late-stage companies into the more advanced and mature venture-growth stage. This new stage more cleanly segments companies by their investment characteristics. With this stage split out, we find that venture growth's Dealmaking Indicator has grown 2.2x more investor-friendly from Q4 2021 to Q4 2022. The early and late stages reached peak startup-friendliness one quarter later, in Q1 2022, and from that peak to time of writing, they have grown 7.1x and 6.4x more investor-friendly, respectively. This is caused primarily by shifts in the demand and supply of capital ratio, increased prevalence of investor protections, and an increase in the time between subsequent funding rounds for companies.

### VC Dealmaking Indicator by stage

*New deals are getting progressively more investor-friendly*



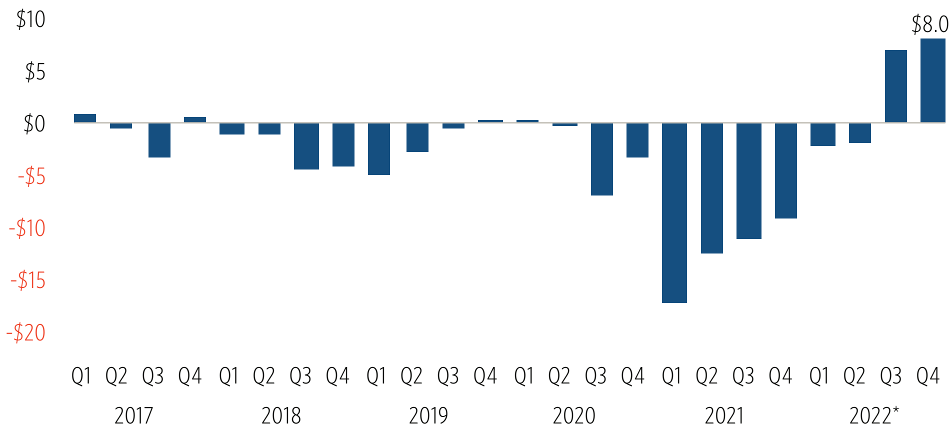

Source: PitchBook | Geography: US
*As of December 31, 2022

This all being said, the above metrics have some caveats. Capturing deal term data for the VC Dealmaking Indicator is difficult. We have built in safeguards to the Indicator so that a value isn't used if there are fewer than five deals in a period. Furthermore, the demand for capital estimate is generated using historical data, meaning that the model expects the present to resemble the past. The potential weakness of this is that broad market changes are not immediately factored into the estimation. Currently, startups are reducing their headcount to decrease burn rate, which increases runway. This means that when they return to the funding market, the step-ups between deal sizes are likely to be much smaller than history tells us, as startups need less capital to sustain their businesses. Likewise, changes in time between rounds will impact the estimate for the capital demanded.

## Venture growth

### Venture-growth stage supply and demand of capital ($B) by quarter

*Venture growth is seeing greater capital supply constraints after the euphoria of cheap money has abated*



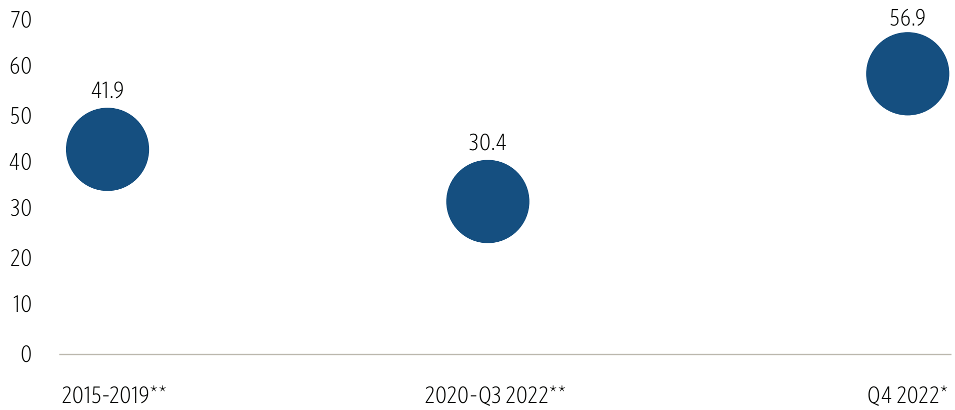

Source: PitchBook | Geography: US
*As of December 31, 2022
*Note: Q4 2022 is the current reading.*

Turning our attention back to the supply and demand of capital, venture growth has struggled recently as the IPO markets have frozen. Furthermore, the supply and demand of capital imbalance has resulted in startups seeking 67.1% more capital than venture capitalists are currently providing for new deals. This is a stark change from 2021, when more capital was supplied by venture capitalists than was expected, given the historical pace of new capital raises. The pre-money valuation step-ups for new deals at this stage went from 1.1x in Q2 2020 to a peak of 1.9x in Q1 2022, representing a 71.7% increase. Funding will return to this stage when public market valuations used for comparables return to more favorable levels and IPO liquidity increases.

In 2021, venture-growth companies saw record-high valuations because investors thought there was a quick route to a public listing and public tech stocks saw their best run since the dot-com era. On the bright side, these companies have the greatest access to nontraditional investors and venture debt to protect them from insolvency. Additionally, companies at this stage have likely built out a large cap table of investors that will want to ensure their equity doesn't disappear due to a default or bankruptcy. This means that companies at this stage may be able to secure funding from existing investors at flat valuations or with more protections for investors to maintain their businesses.

### VC Dealmaking Indicator for venture-growth stage by selected time periods

*Venture growth has become more investor-friendly than pre-pandemic levels*



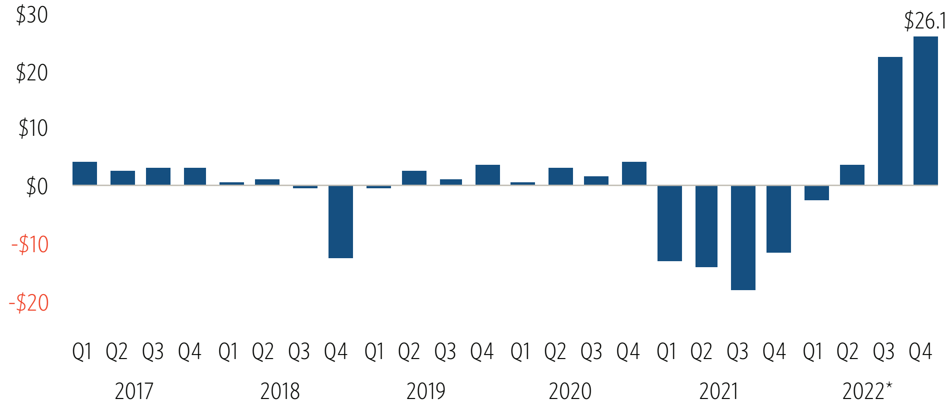

Source: PitchBook | Geography: US
*As of December 31, 2022 | ***Median*
*Note: Q4 2022 is the current reading.*

During the pandemic, the venture-growth stage had become more startup-friendly than in the past, but now the reading is at a relative high point of 56.9. This represents a change of 2.2x more investor-friendliness from the lowest reading of 17.7 in Q4 2021. The median ownership share for new investors increased from 10.0% in Q2 2022 to 17.1% in Q4 2022, an investor-friendly indication of leverage at the negotiating table. Additionally, cumulative dividends have made a resurgence at this stage, with a prevalence of 12.3% of deals at their lowest point in Q1 2022 to 32.0% containing them in Q4 2022. These two trends, as well as the changes in the supply and demand of capital, have moved venture growth slightly into investor-friendly territory.

## Late stage

### Late-stage VC supply and demand of capital ($B) by quarter

*The late stage is seeing significant demand relative to supply*

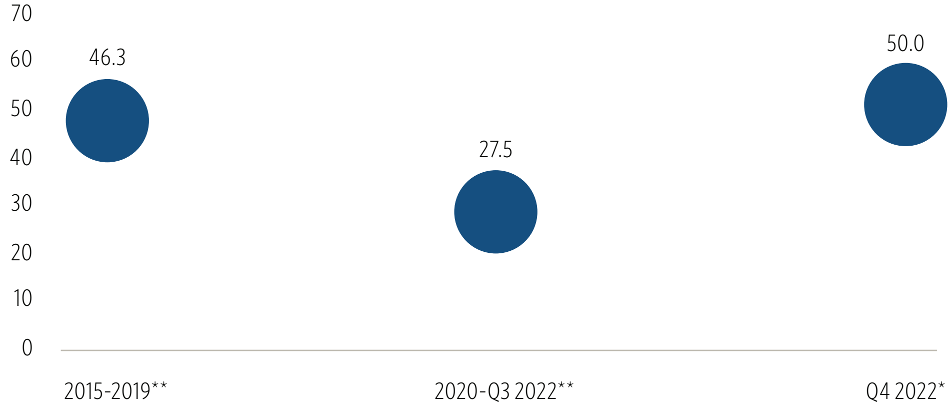



Source: PitchBook | Geography: US
*As of December 31, 2022
*Note: Q4 2022 is the current reading.*

The late stage is the most capital-starved in terms of unfilled demand, with a $26.1 billion funding gap in Q4 2022, just five quarters after a peak overfunding of $18.3 billion. As noted in our 2023 US Venture Capital Outlook, we expect this stage to see the most down rounds as startups return to reality when seeking funding. While all stages saw an increase in median pre-money valuations for new deals from 2020 to 2021, the late- and venture-growth stages fell in the second half of 2022, thus commencing the unwinding of the overvaluations seen by these stages. Because more of these startups were further along the path to positive free cash flow compared with earlier stages, it was easier for them to be compared to public market comparables, many of which were trading at more than 50x revenue at the height of the market euphoria. These valuation techniques are sensitive to the interest rate changes caused by the Fed tightening cycle in 2022. Expectations for less growth also hurt these companies, which are typically loss-making. This doesn't bode well for overextended companies seeking additional capital.

### VC Dealmaking Indicator for late-stage VC by selected time periods

*The late stage has become nearly twice as investor friendly as pandemic levels*



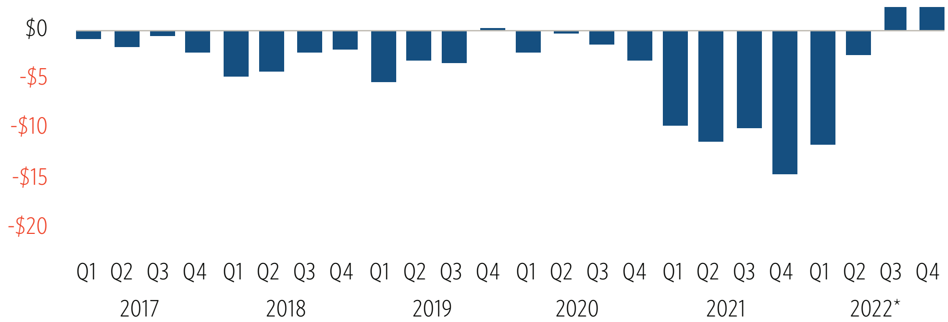

Source: PitchBook | Geography: US
*As of December 31, 2022 | ***Median*
*Note: Q4 2022 is the current reading.*

With the supply-demand imbalance now favoring venture capitalists with dry powder, the late stage has returned to more investor-friendly territory and is currently above even pre-pandemic levels, according to our VC Dealmaking Indicator. In 2022, the time between rounds started to creep up, and this is a markedly investor-friendly attribute. That is to say, when companies raise less frequently, this implies that less capital is available to startups and deal negotiations are taking longer. Additionally, the late stage is already seeing many more participating preferred shares as a component of deals, from 8.4% of deals containing one in Q3 2021 to 18.6% in Q4 2022.

## Early stage

### Early-stage VC supply and demand of capital ($B) by quarter

*The early stage is seeing significant demand relative to supply*



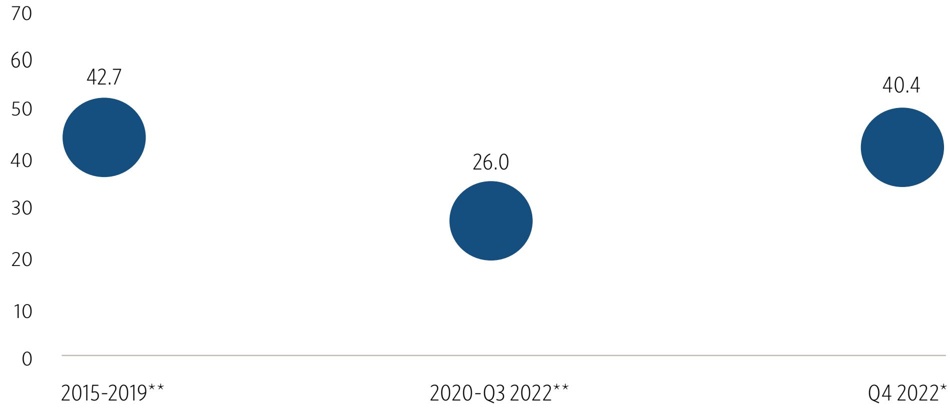

Source: PitchBook | Geography: US
*As of December 31, 2022
*Note: Q4 2022 is the current reading.*

Finally, the early stage has fared slightly better than the other stages, but its funding deficit is the smallest—at only 50.5% above what is currently being supplied, with a gap of $8.7 billion. When compared with valuations for new deals in 2021, valuations for new deals in 2022 have not retreated, as discussed in the Q4 2022 PitchBook-NVCA Venture Monitor. This is partially because this stage didn't receive as extreme of a markup as the other stages. The early stage is also the most insulated from macroeconomic movements because of the time it takes for an early-stage investment to come to fruition. Studies have demonstrated that when IPO markets freeze, investors prefer the early stage due to the time it takes to reach an exit.[1] Early-stage investments take a median of five years to exit, one full year longer than the late stage and two years longer than venture-growth investments, meaning that suffering public comparables aren't as influential on these valuations.

1: "Liquidity Risk and Venture Capital Finance," Wiley Online Library, Douglas Cumming, Grant Fleming, and Armin Schwienbacher, October 27, 2008.

## VC Dealmaking Indicator for early-stage VC by selected time periods

*Despite the recent pullback, early-stage VC remains relatively startup-friendly*




Source: PitchBook | Geography: US
*As of December 31, 2022 | ***Median*
*Note: Q4 2022 is the current reading.*

The early stage is the only venture stage with a Dealmaking Indicator level that is still more startup-friendly than its pre-pandemic level of 42.7 from 2015 through 2019, compared with its current reading of 40.4 as of Q4 2022. Investors making new deals are still valuing these companies using step-ups greater than the other two stages, with new deals in Q4 2022 garnering a median valuation step-up of 1.9x. However, this is down from a peak of 3.3x in Q1 2022. These early-stage companies also return to the funding market more quickly than the other stages, with a median time between rounds in Q4 2022 of just 1.3 years. This represents a 39.1% increase from the pandemic low of 0.9 years in Q1 2022, which was the only quarter since at least 2010 when the median time it took for early-stage companies to return for funding was less than one year. Over that same period, no other stage saw any median time between fundings of less than a year.

While early-stage companies do return to the funding market the most of the three stages in general, they are still getting their footing and are further from profitability than the other stages. Rather than take a down round, early-stage startups are opting to increase runway and avoid fundraising until prospects look better.