



QUANTITATIVE PERSPECTIVES

US VC: Bracing for Change

Q1 2022



US VC: Bracing for Change

Introduction

Two years ago, the COVID-19 pandemic sent markets into freefall and halted economic growth. Unexpectedly, equity markets and economic activity snapped back sharply and soared to new heights through 2021. Simultaneously, the venture market adapted to the new environment, resulting in unprecedented sums of capital flowing into the asset class.

Dealmaking, exits, and fundraising all saw activity well above historical levels, even when accounting for the long-term expansion of the market. Valuations moved sharply upward, fueled by the glut of capital contributed by nontraditional venture investors. Through this, investors have also been shedding protective deal terms as the market shifts to a more startup friendly posture, as evidenced by our [Venture Capital \(VC\) Dealmaking Indicator](#).

Despite the momentum of the past two years, 2022 has ushered in some potential headwinds for the industry. Equity markets are down, inflation remains a prominent theme, and geopolitical turmoil are all contributing to uncertainty. The venture industry may be able to weather these difficulties on the back of sheer enthusiasm for the asset class, but there is certainly reason to doubt that the highs of 2021 can be matched or exceeded this year.

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Key takeaways

- The tight labor market, typically associated with higher costs for companies, may provide opportunity to the venture industry as new business formations have simultaneously increased.
- Despite the turmoil presented by the COVID-19 pandemic, venture investment, exit activity, and fundraising far exceeded long-term expansionary trends in 2020-2021.
- Investors have left themselves vulnerable to valuation corrections by sacrificing protective deal terms in exchange for access to deal flow, coaxed by high valuations and high exit sizes, as evidenced by the VC dealmaking indicator.
- The recent focus on investment outside of traditional tech hubs, boosted by a shift toward remote work, has led to big jumps in funding in many US states.
- The prospect of increasing bond yields may reduce venture's allure to LPs, but that effect will likely be tempered if inflation persists.
- The public markets have seen a massive pull back in 2022 to date, creating not only headwinds to fundraising due the denominator effect, but may also negatively impact step-ups and exit activity going forward.
- Exit value was largely driven by public listings throughout the pandemic. A bear market may make public markets less receptive to the sky-high valuations of many later stage companies.

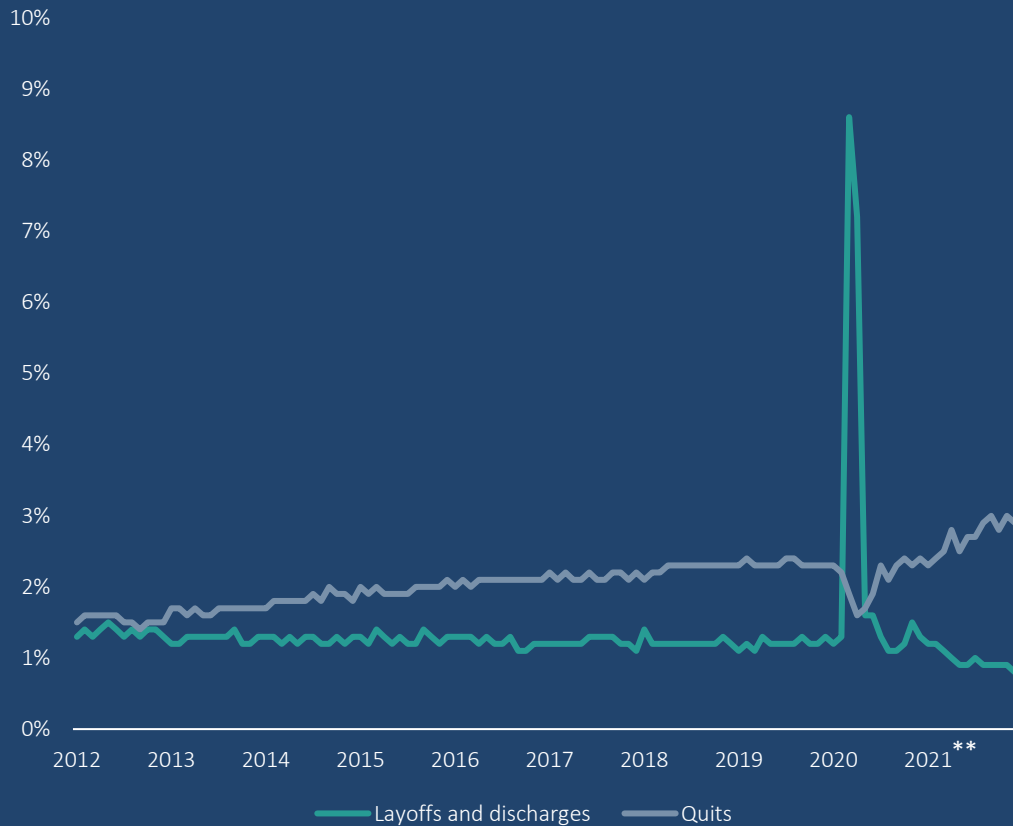


2021 in the rearview mirror

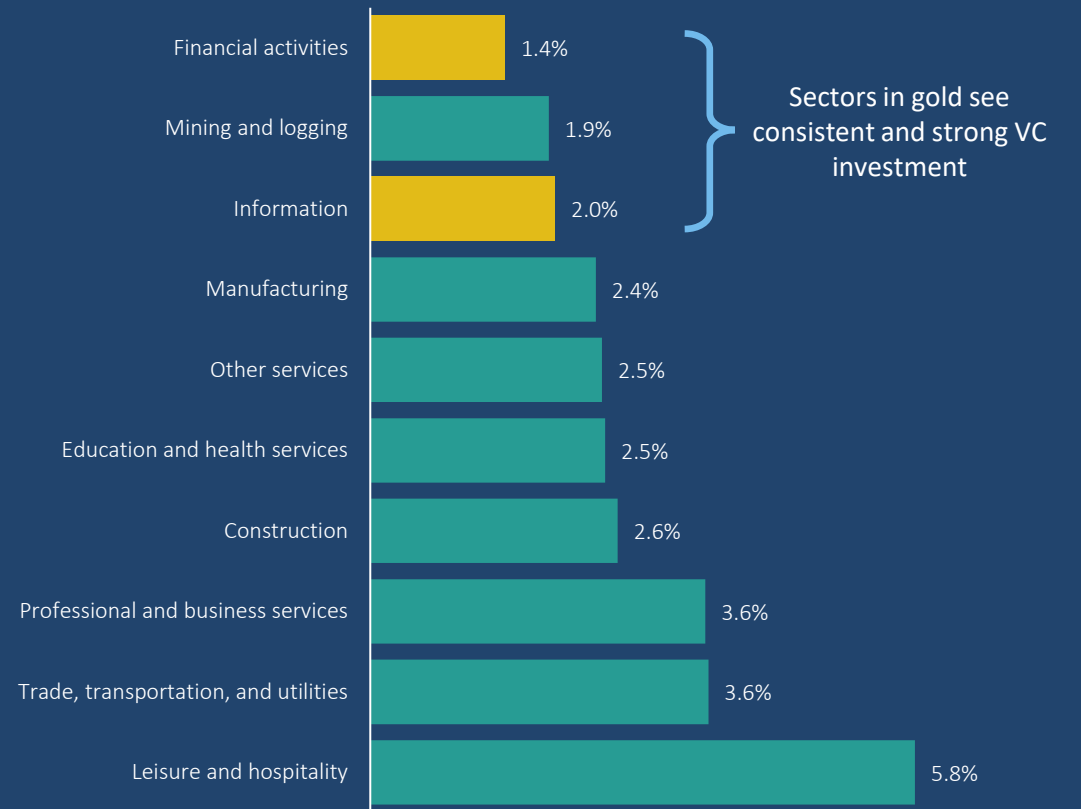


The labor market has tightened coming out of COVID-19. While this could lead to increased labor costs for startups, it may also be a boon for startup formation...

Layoffs and discharges vs quits in the US



3-month average quit rate by industry*

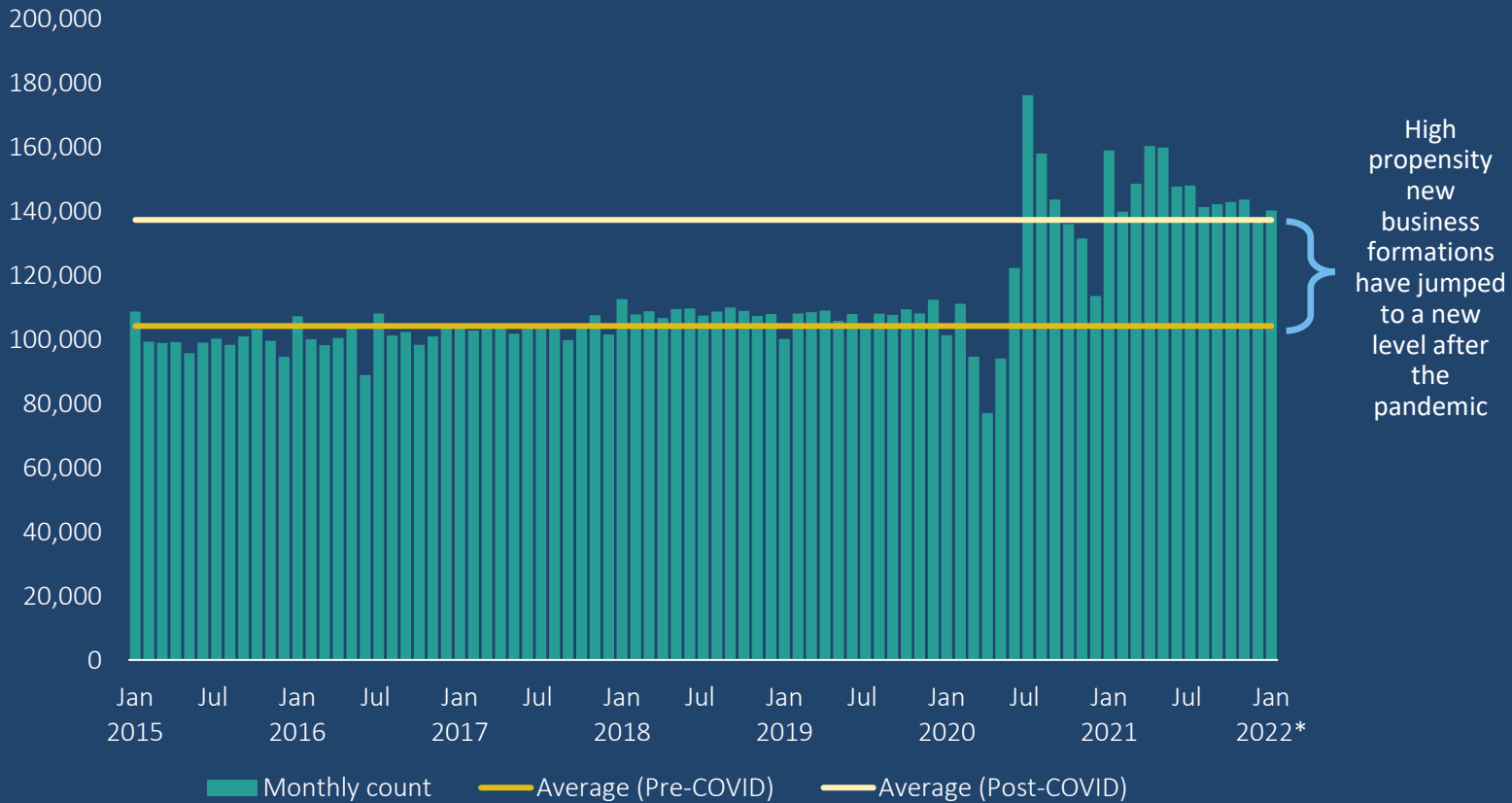


Source: FRED and BLS | Geography: U.S.
*As of January 31, 2022
**As of December 31, 2021



...as new business starts jumped considerably, expanding the pool of early-stage targets...

Monthly high propensity new business formations (seasonally adjusted)



High-propensity new business formations include corporate entities, that indicate they are hiring employees, that provide a first wages-paid date (planned wages); or businesses in accommodation and food services or in portions of construction, manufacturing, retail, professional, scientific, and technical services, educational services, and health care.

Source: BLS | Geography: U.S.
*As of January 31, 2022



...and first financing activity has increased every quarter since Q2 2020 and remained strong through 2021, suggesting investors are backing this new pool of entrepreneurs.

Quarterly VC first financings count (seasonally adjusted)

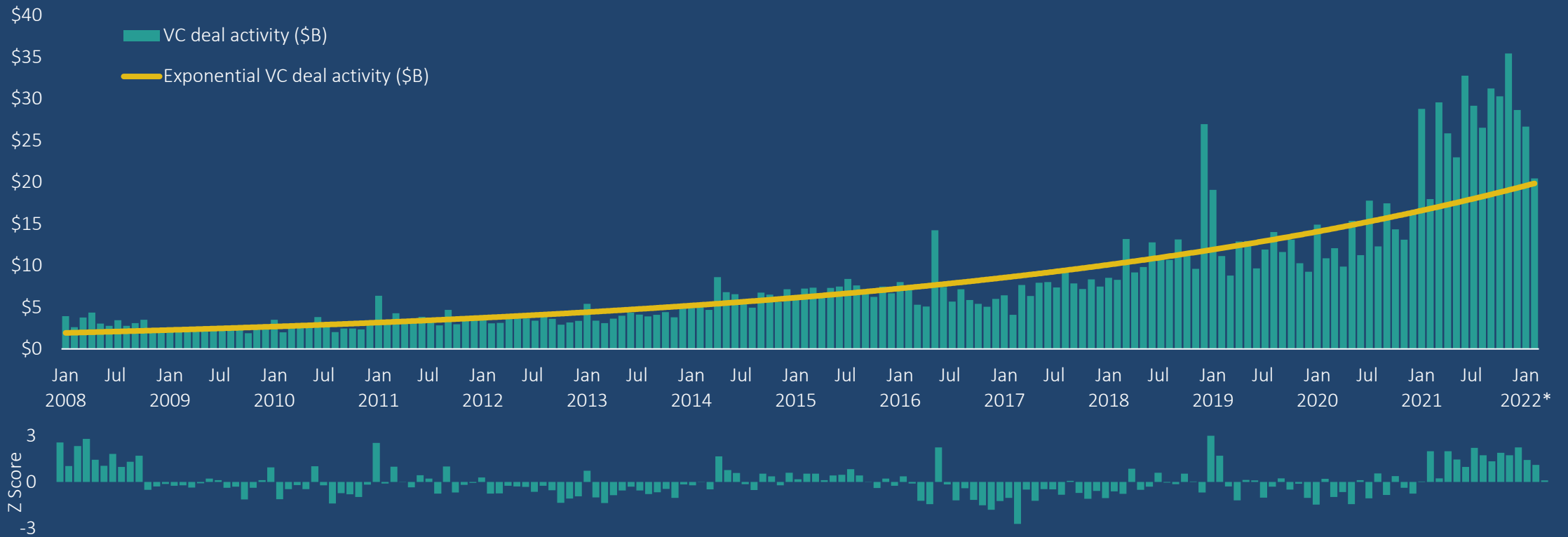


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



Continuing the long-term expansion of the venture landscape, 2021 registered massive capital-invested numbers, which outpaced the long-term trend each month in 2021...

Monthly VC deal activity and trend adjusted Z-score

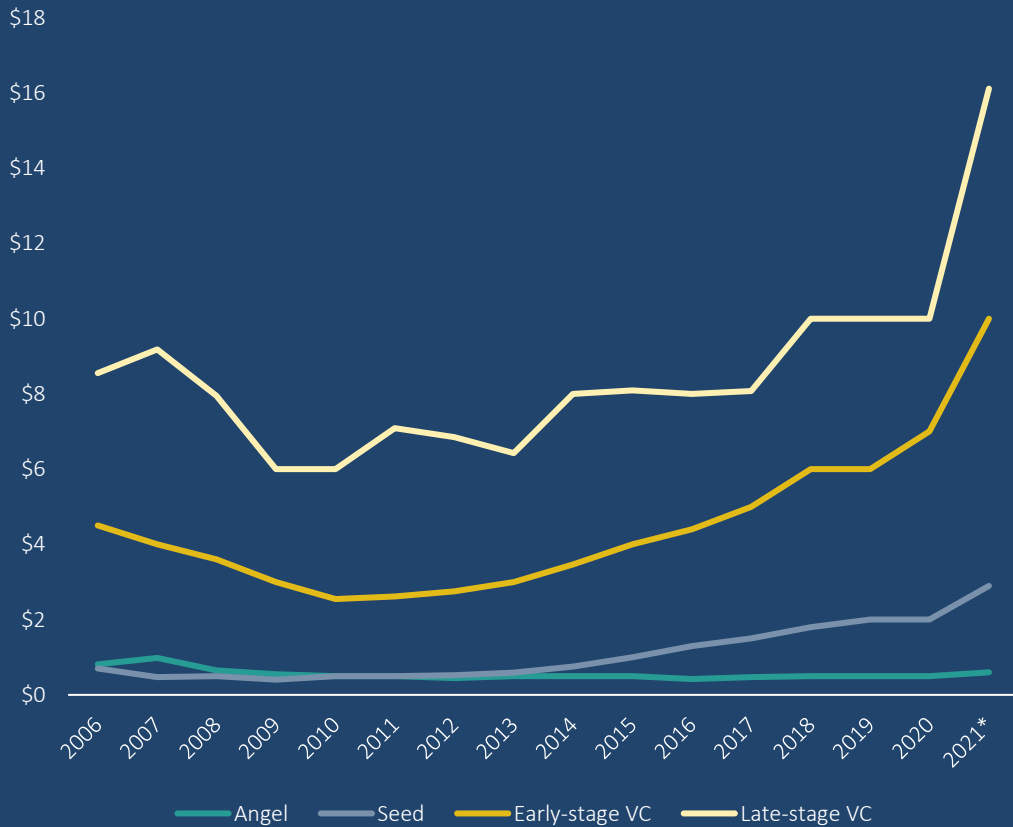


Source: PitchBook | Geography: U.S.
*As of February 28, 2022

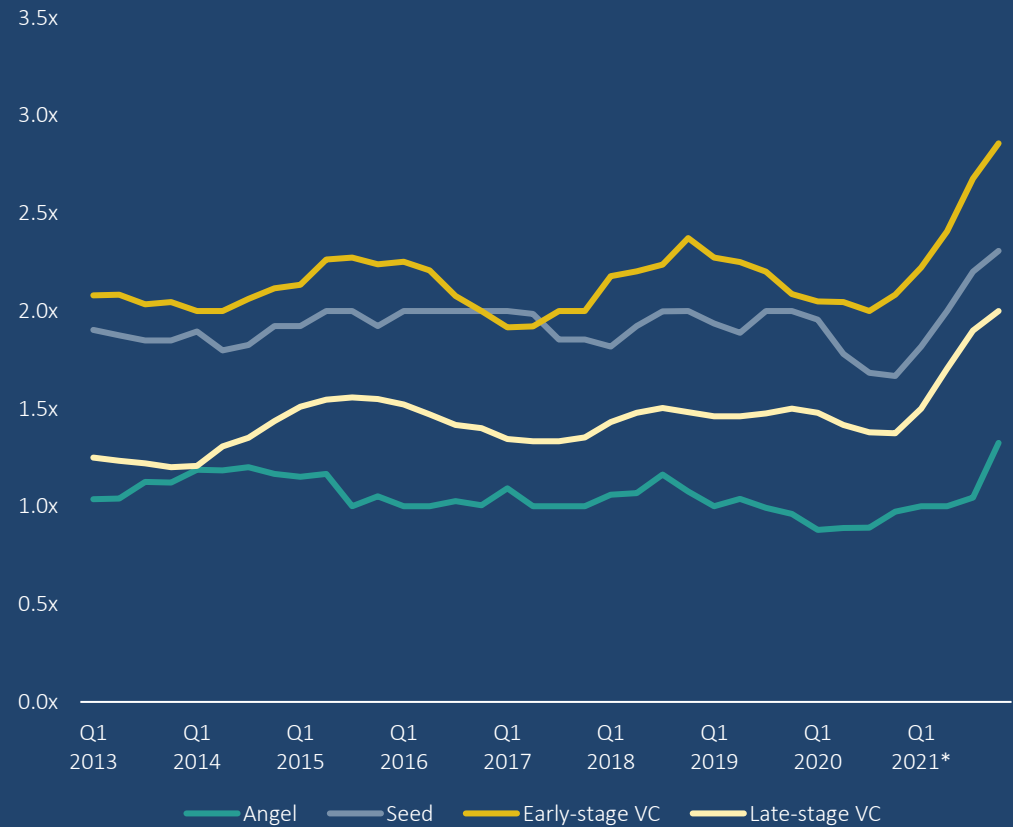


...in part, fueled by a big jump in deal sizes at all stages and faster increases in amount raised from round to round.

Median VC deal size (\$M) by stage



Rolling 4-quarter median VC deal size step-ups by stage

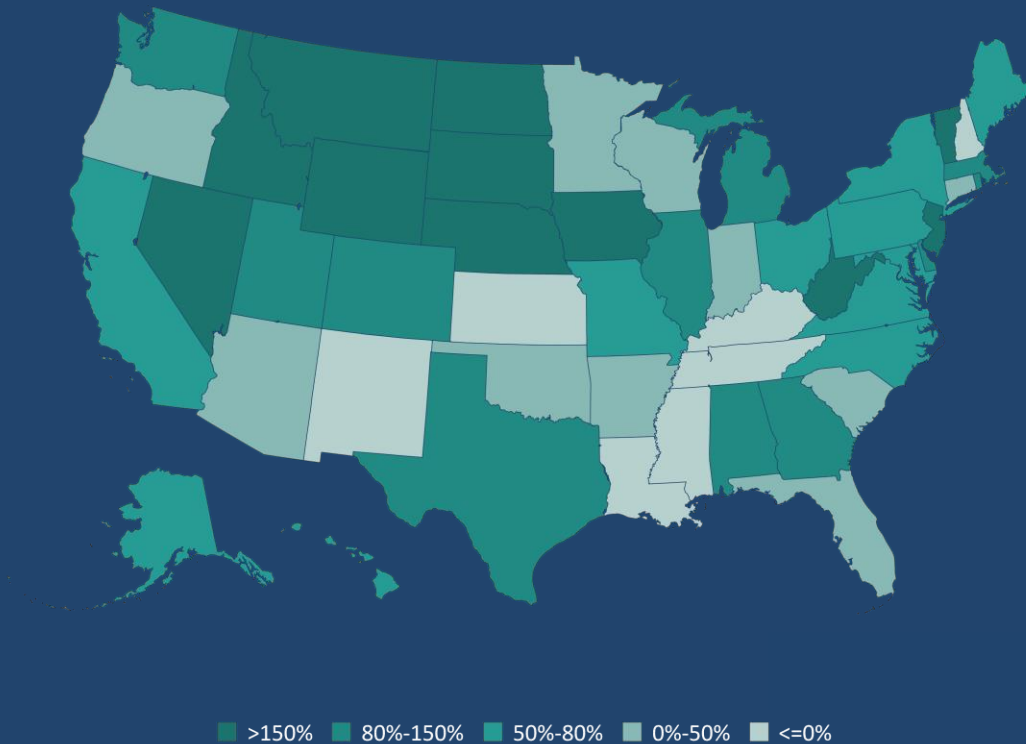


Source: PitchBook | Geography: U.S.
*As of December 31, 2021

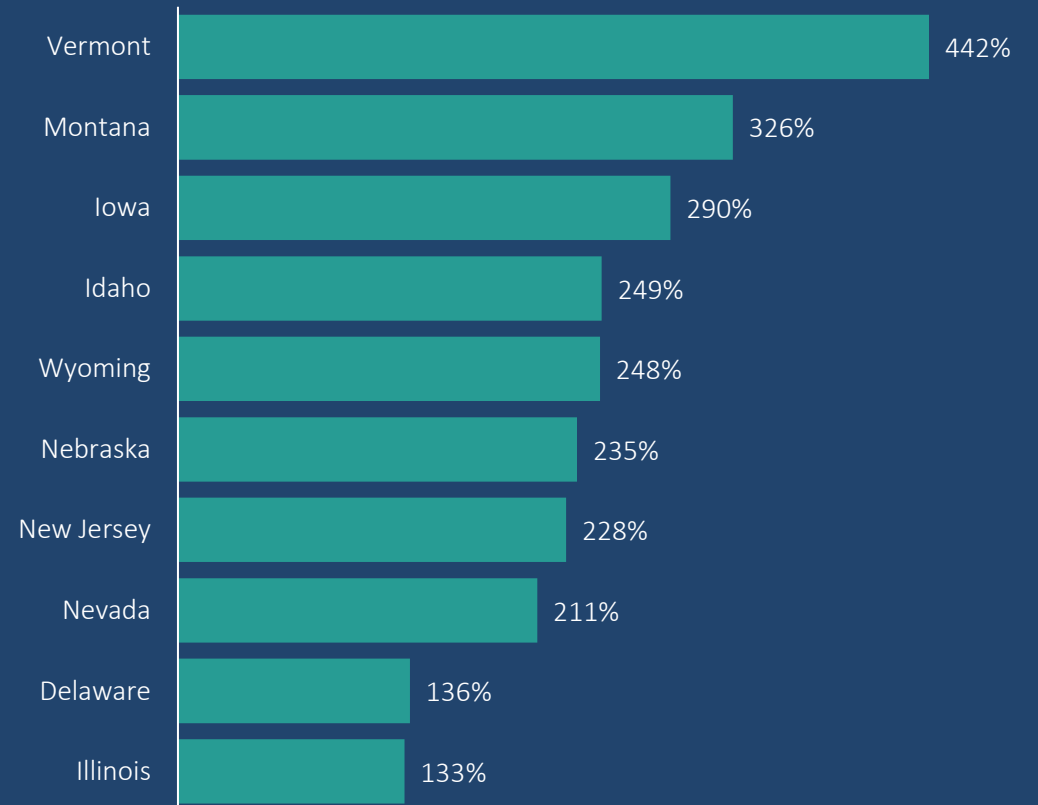


Calls for investment outside of traditional funding hotspots seem to have been heeded during the pandemic as investment ticked up substantially in many states.

Percent change in VC capital invested 2 years before and 2 years after pandemic onset



Top 10 states by percent change in VC capital invested 2 years before and 2 years after pandemic

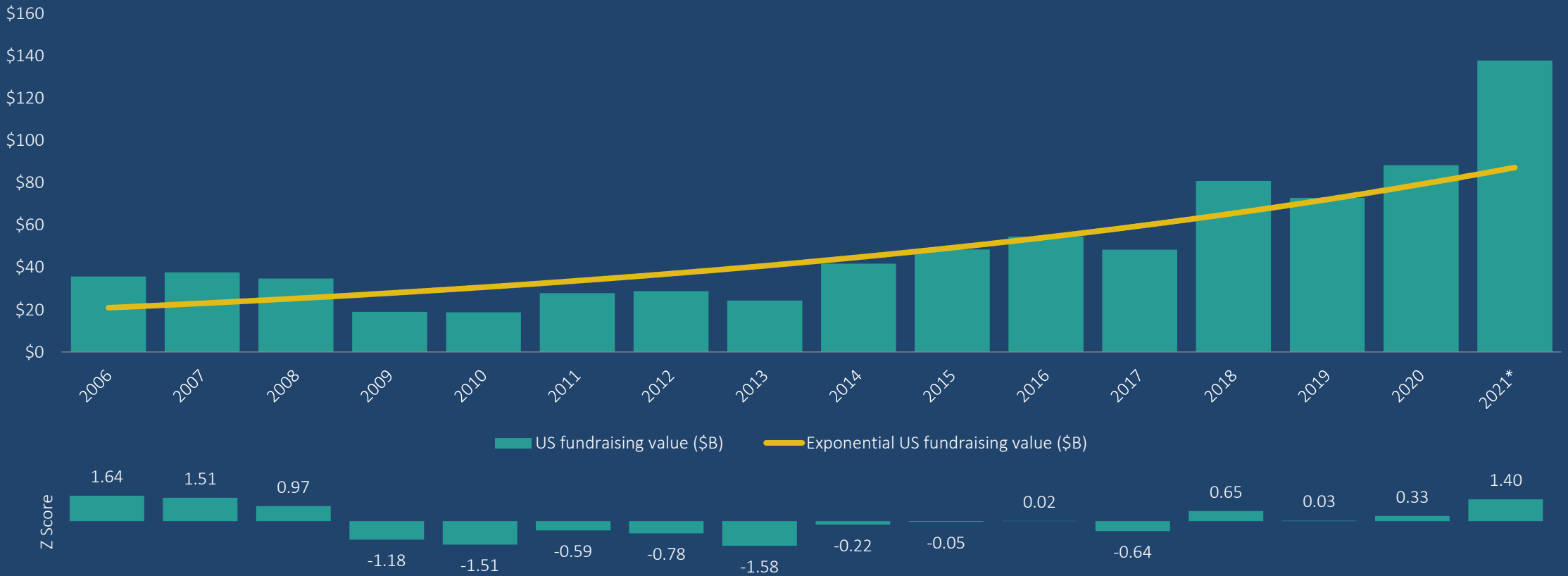


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



As with deal activity, fundraising outpaced long-term trends with \$133 billion raised...

Annual VC fundraising (\$B) activity and trend adjusted Z-score

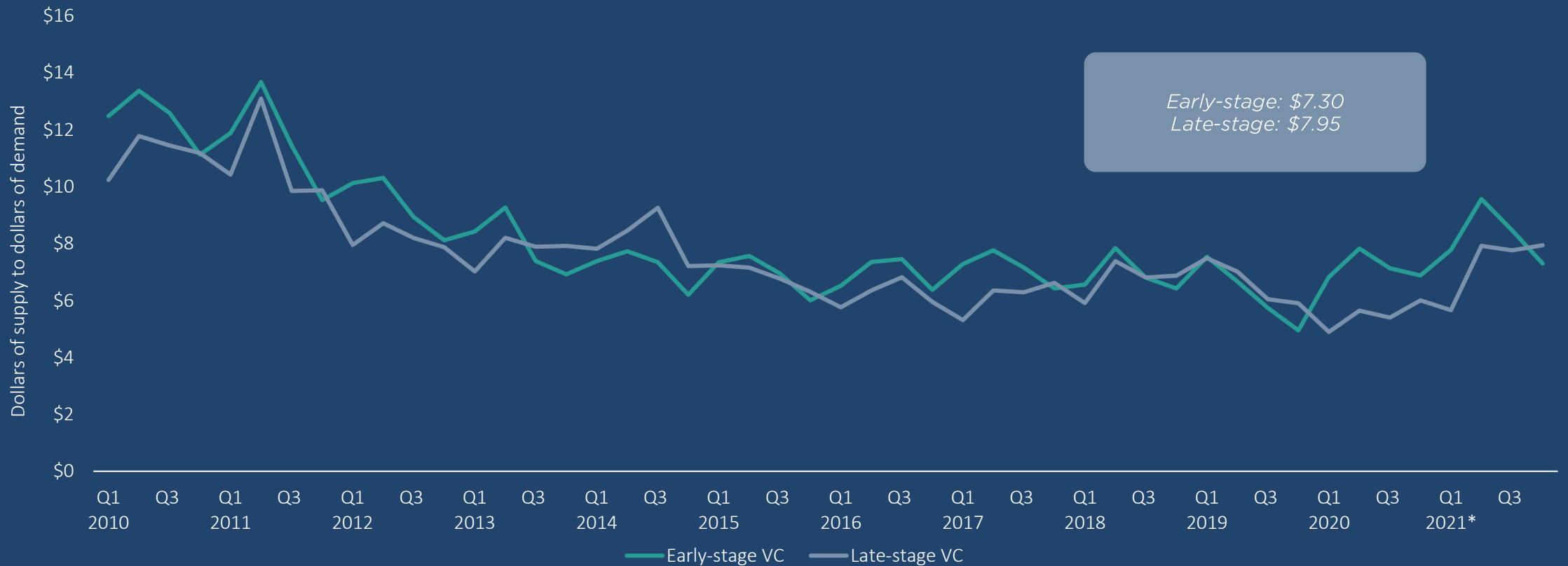


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



...which coincides with the increase in the supply of capital relative to the demand.

Capital supply and demand ratio (dollars available to dollars of demand) in the VC marketplace

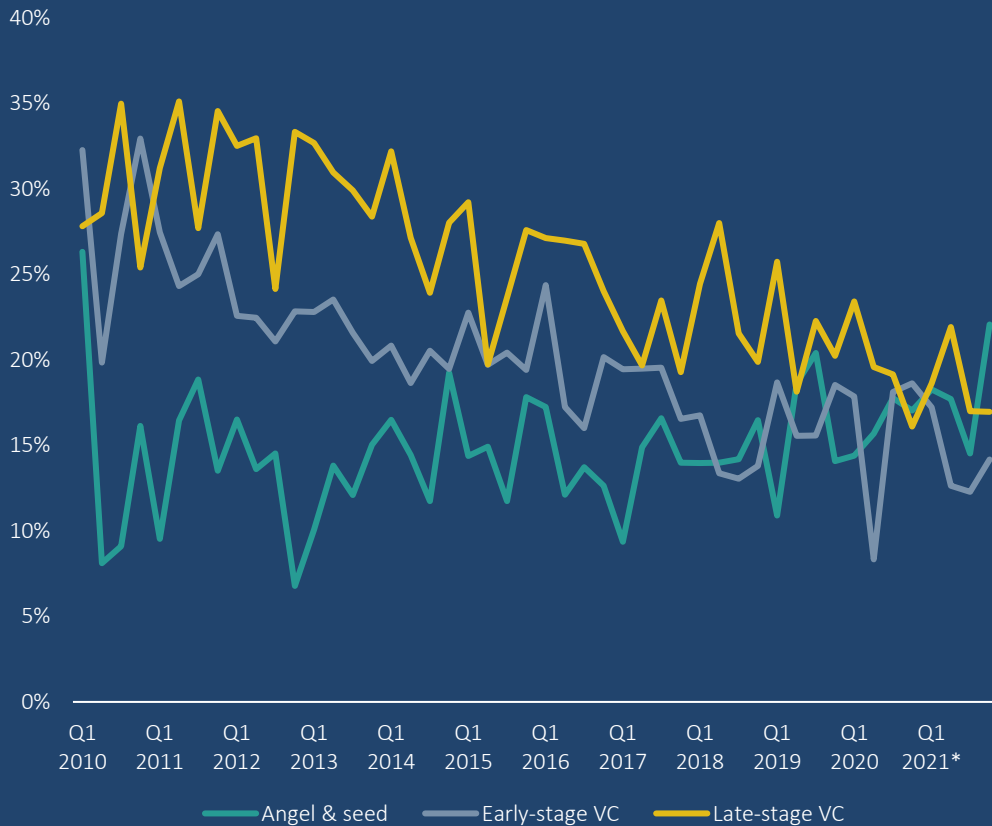


Source: PitchBook | Geography: U.S.
*As of December 31, 2021

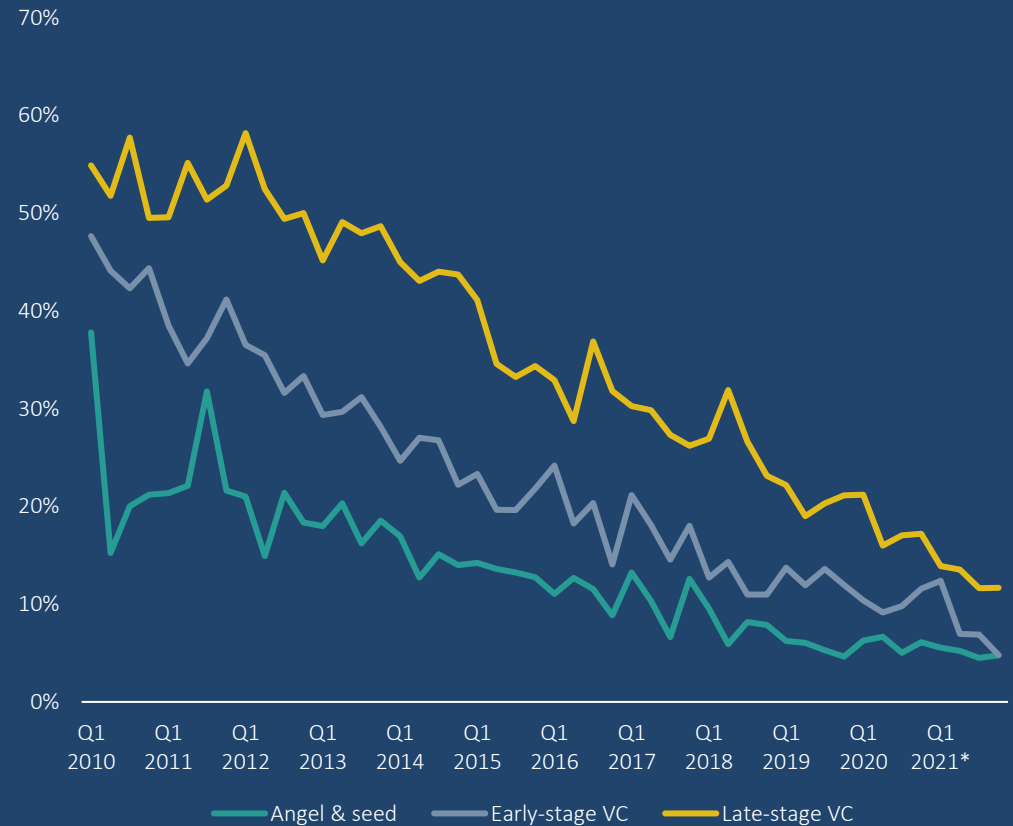


With the long-term expansion of the venture market, investors have opted to settle for fewer deal terms focused on downside protection...

Share of deals that contain cumulative dividend deal terms by stage



Share of deals with liquidation participation deal terms by stage

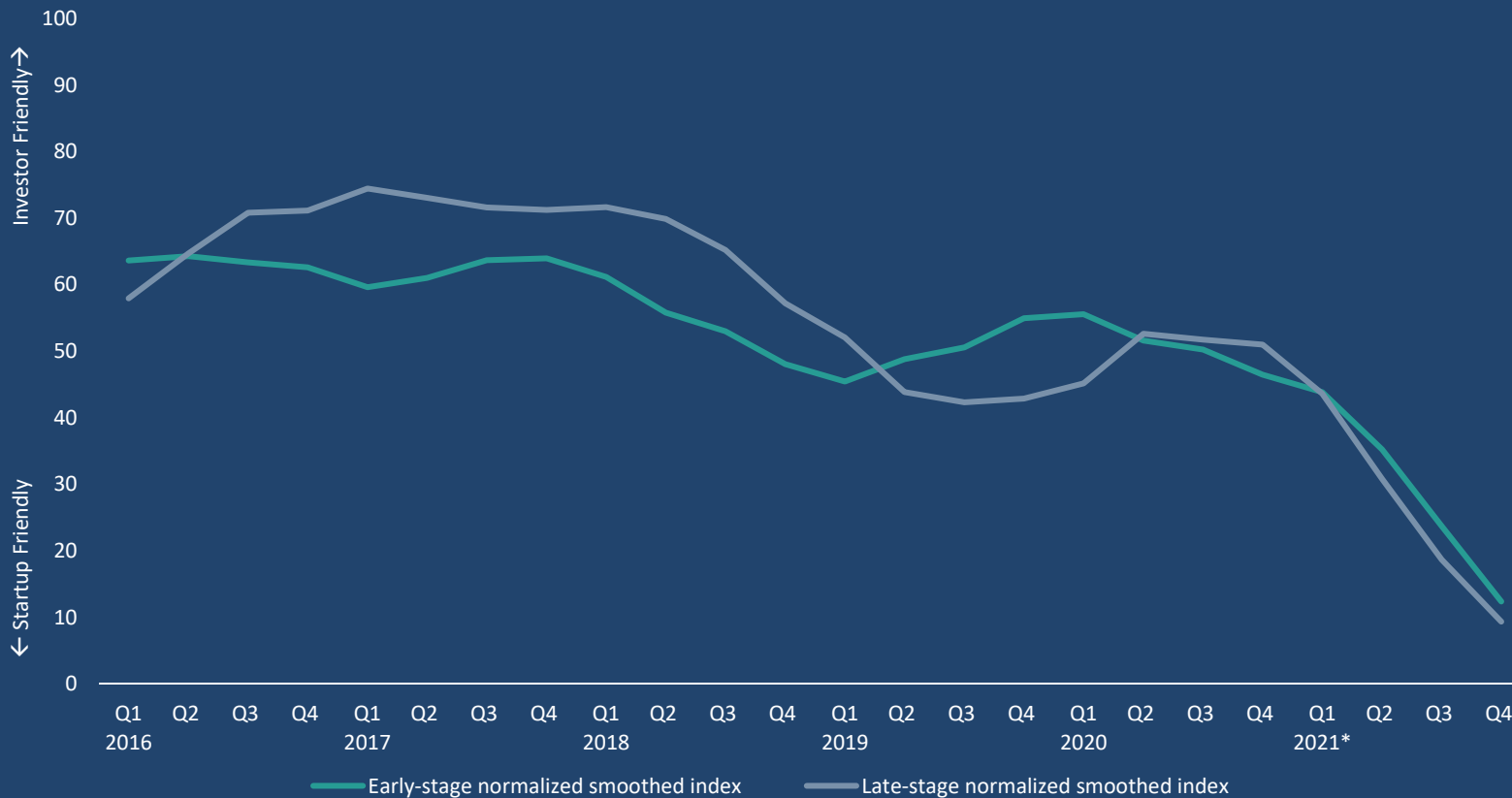


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



...which is quantified in our VC Dealmaking Indicator, showing a sharp trend toward startup friendliness.

VC Dealmaking Indicator



Late Stage

The VC Dealmaking Indicator continues to trend more founder-friendly. This change is primarily attributed to the median percent acquired falling in Q4 2021 at the late stage.

Early Stage

We see a decrease in the use of liquidation participation terms, and median valuation step ups have increased from 2.91 to 3.26 (valuation multiple from post-value of the previous round to the pre-value of the current round), resulting in a more founder-friendly reading. However, we do see an increase in the use of cumulative dividends features in deals compared to this stage in the previous quarter.

For an interactive data visual of the indicator and the components that make it up, [click here](#).

Source: PitchBook | Geography: U.S.
*As of December 31st, 2021

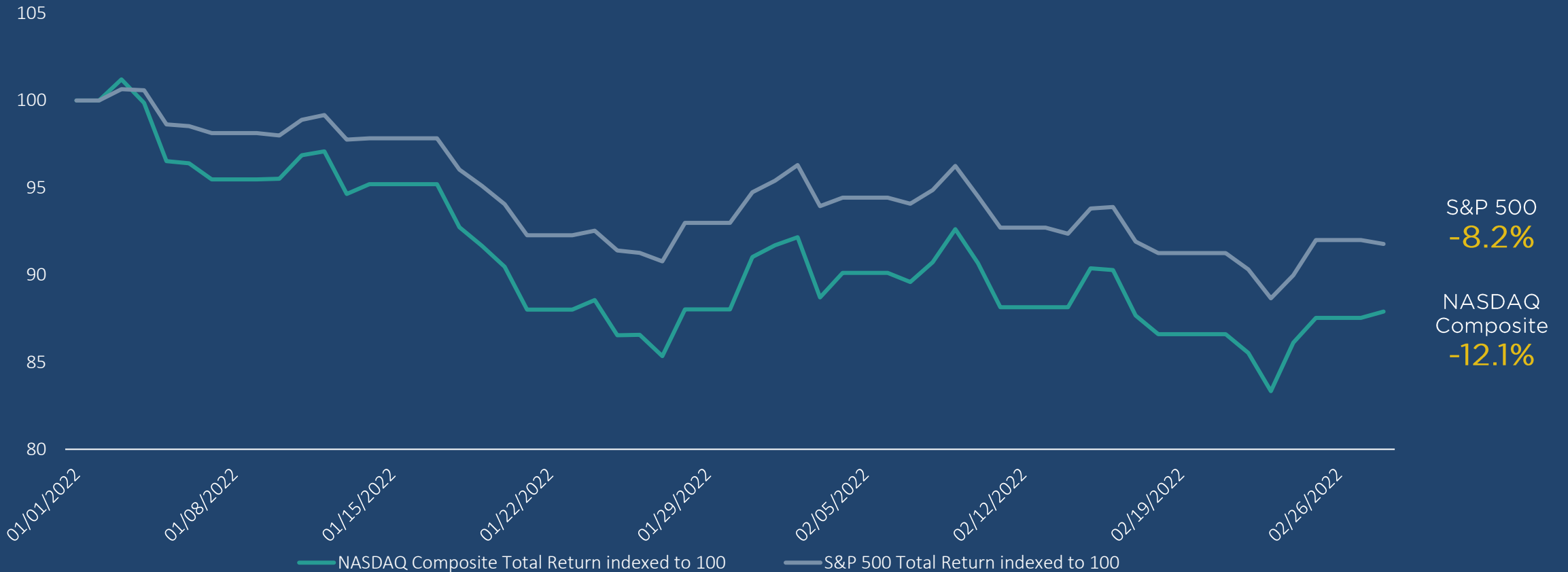


Looking ahead



Venture activity may face some headwinds in 2022, as public markets are off more than 10% YTD, with tech-heavy indexes down even further...

S&P 500 Total Return Index 2022 YTD update

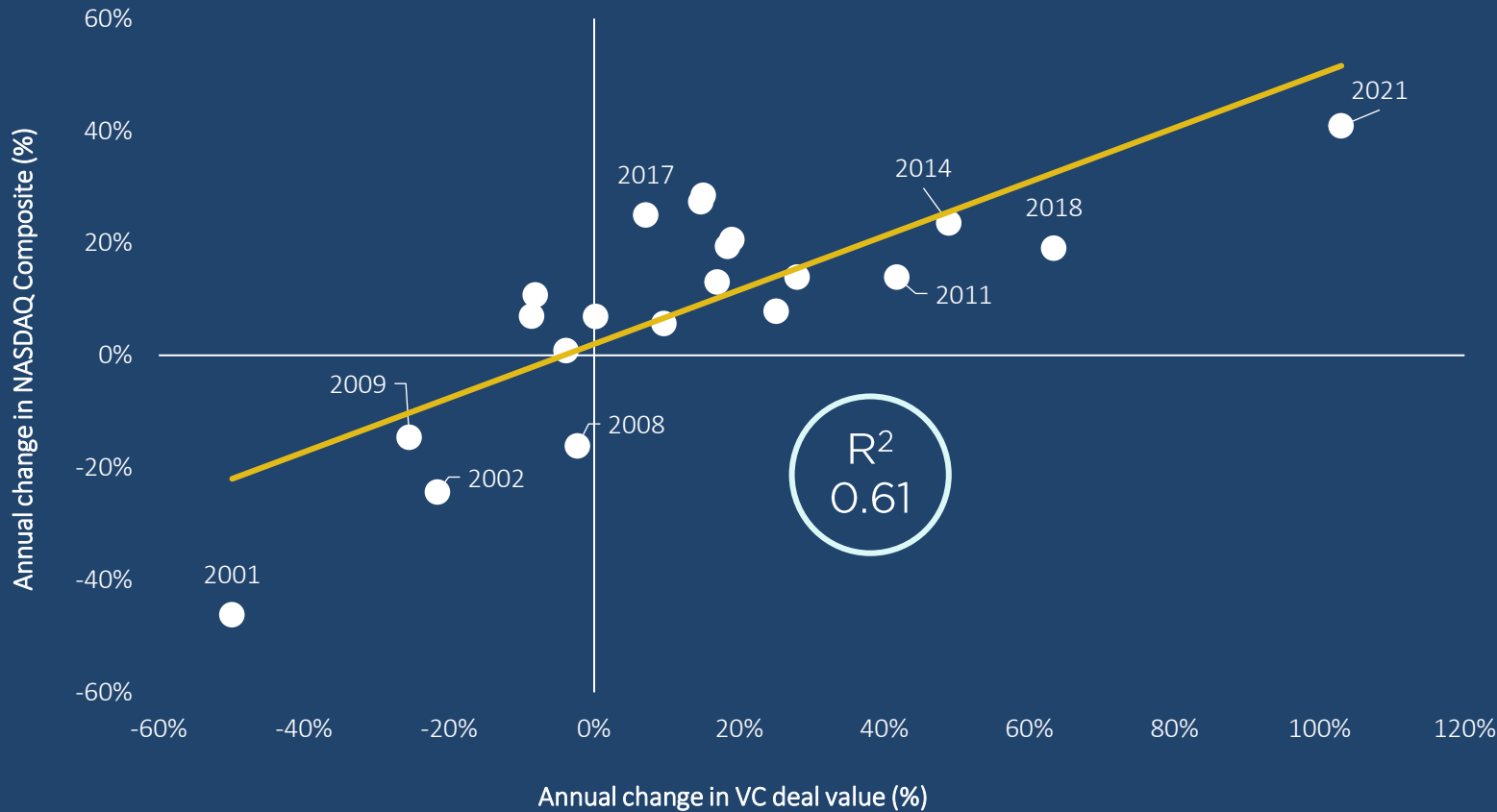


Source: PitchBook | Geography: U.S.
*As of February 28, 2022



...and public market movements have historically been a good indicator of venture activity.

Annual change in NASDAQ Composite Index versus annual change in VC deal value*



Venture investment tends to move with public markets, as institutional investors must rebalance their portfolios in accordance with their allocation targets. However, the slower nature of private markets tends to dampen the magnitude of changes in VC activity.

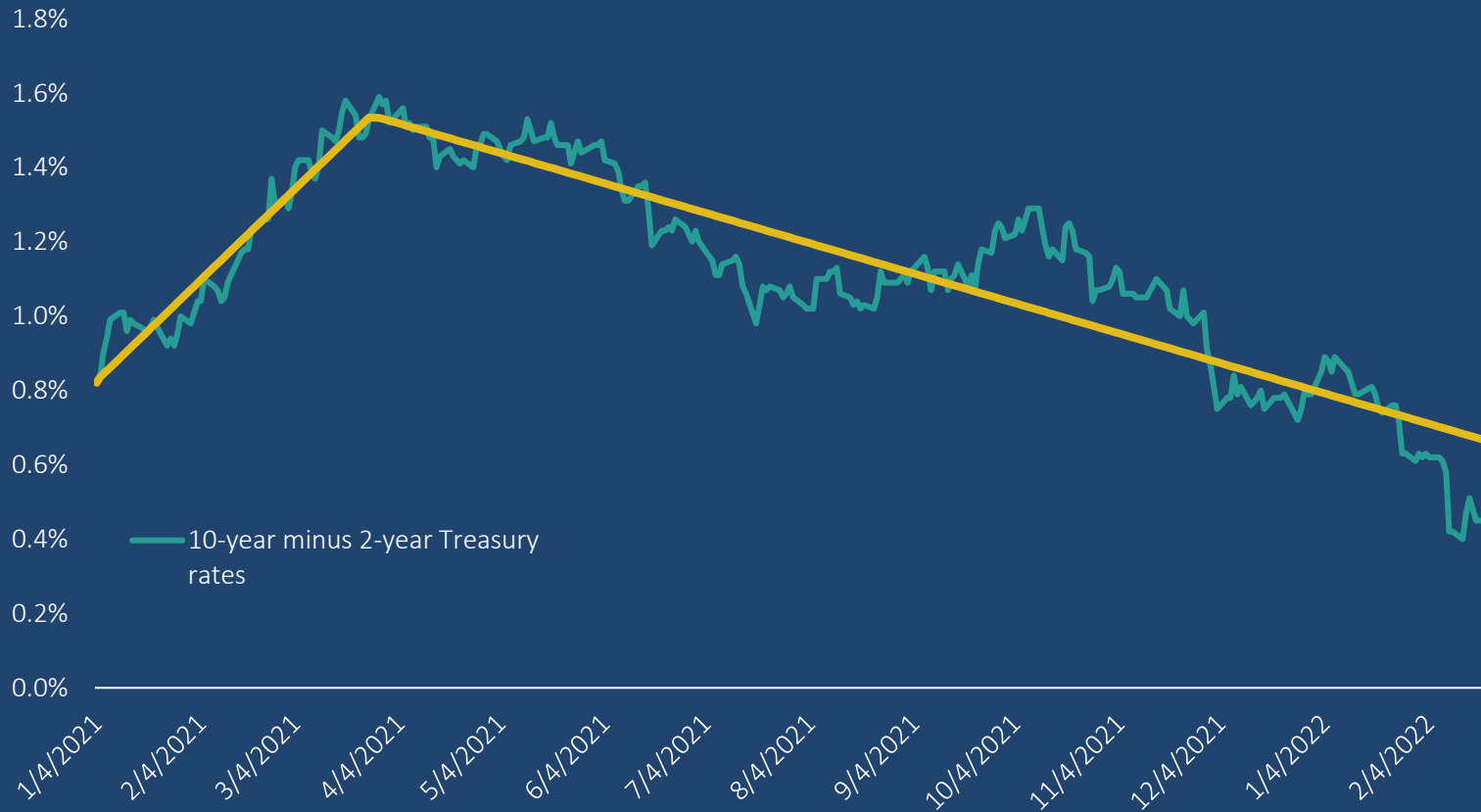
The overall correlation between the index change and VC investment is low, but it increases during large directional movements. This helps explain why VC dealmaking has exploded over the past several quarters, as public market performance has been impressive since the pandemic-induced low in March 2020.

Source: PitchBook | Geography: US
* January 1, 2001, to December 31, 2021



Additionally, the flattening yield curve may prompt institutional investors to pull back from alternative investments...

10-year Treasury constant maturity minus 2-year Treasury constant maturity



The Treasury yield spread is a measure of how steep or flat the yield curve is. A negative spread, or inversion of the yield curve, is associated with coming recessions and weakness in the stock market.

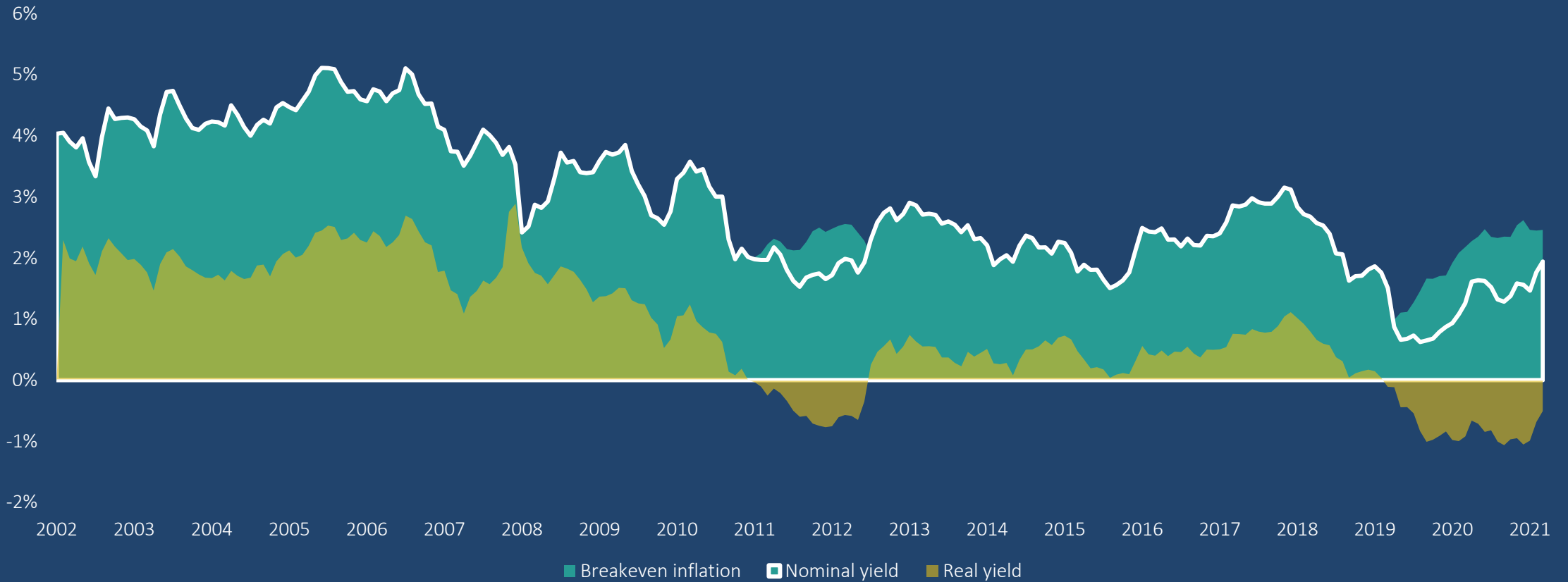
There is much debate as to the factors that influence this relationship, but one primary factor is the raising or lowering of rates at the front (short-term) end of the curve by the Fed in response to business cycle expectations. During boom times rates are increased by the Fed to counteract inflation, which flattens the yield curve, indicating that the next step in the business cycle is likely a peak, followed by a decline.

Source: PitchBook | Geography: U.S.



...although given the high levels of inflation, real yields may prevent allocators from viewing bonds favorably should inflation persist.

10-year Treasury yield attribution*

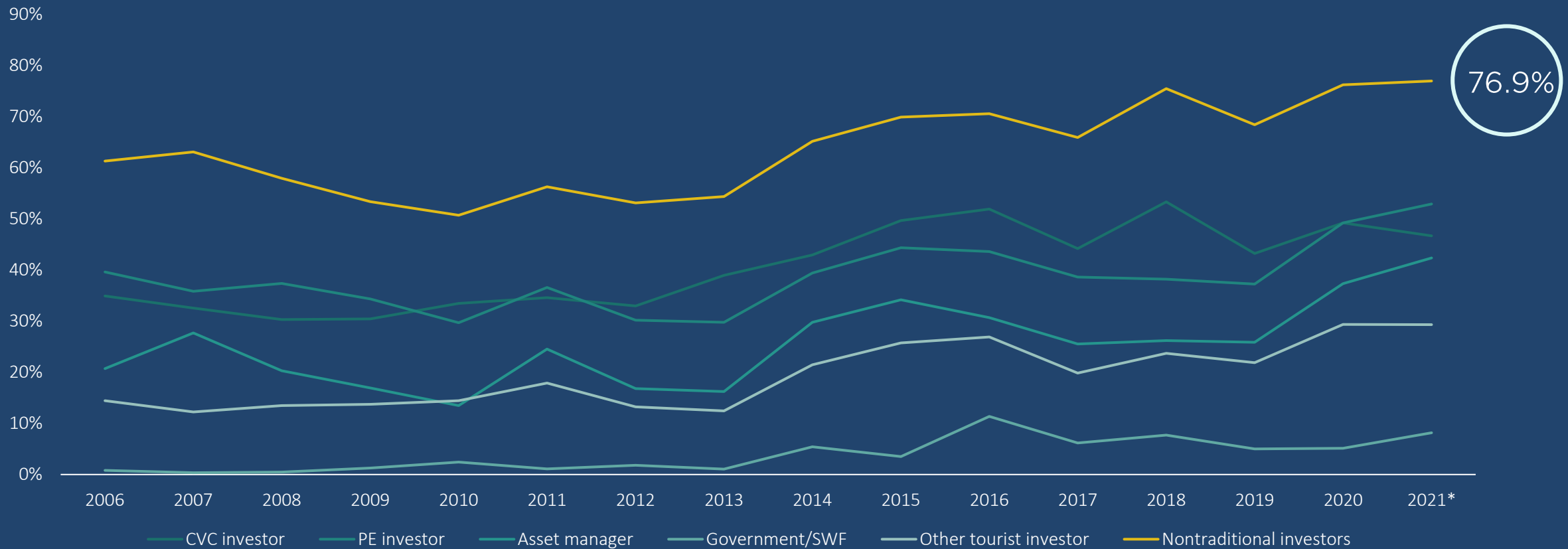


Source: PitchBook | Geography: U.S.
*As of February 28, 2022



Nontraditional investors have steadily increased their exposure to VC, particularly in the late stage. A pullback from this group would leave a sizeable funding gap in venture markets...

Deals with alternative VC investor participation as a share of overall VC deal value

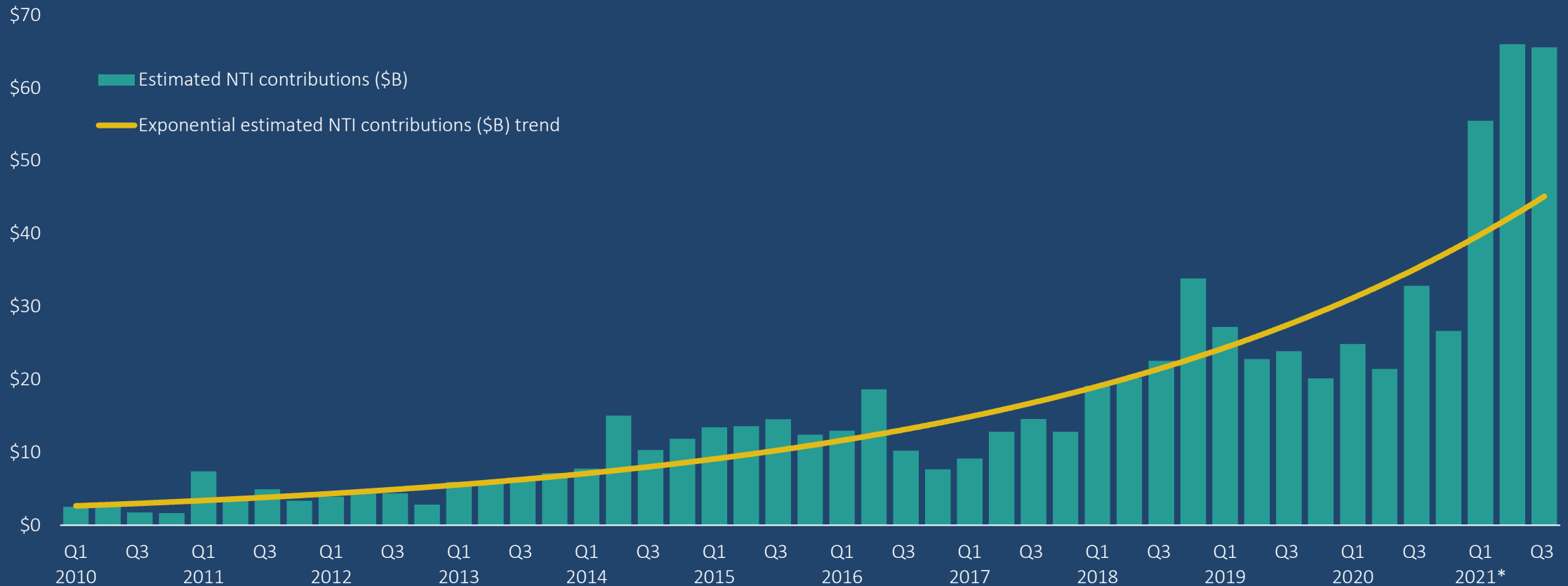


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



...and the shock to dealmaking could be significant if nontraditional investors decide to pull back.

Quarterly estimated capital invested (\$B) by nontraditional venture investors



Source: PitchBook | Geography: U.S.
*As of September 30, 2021

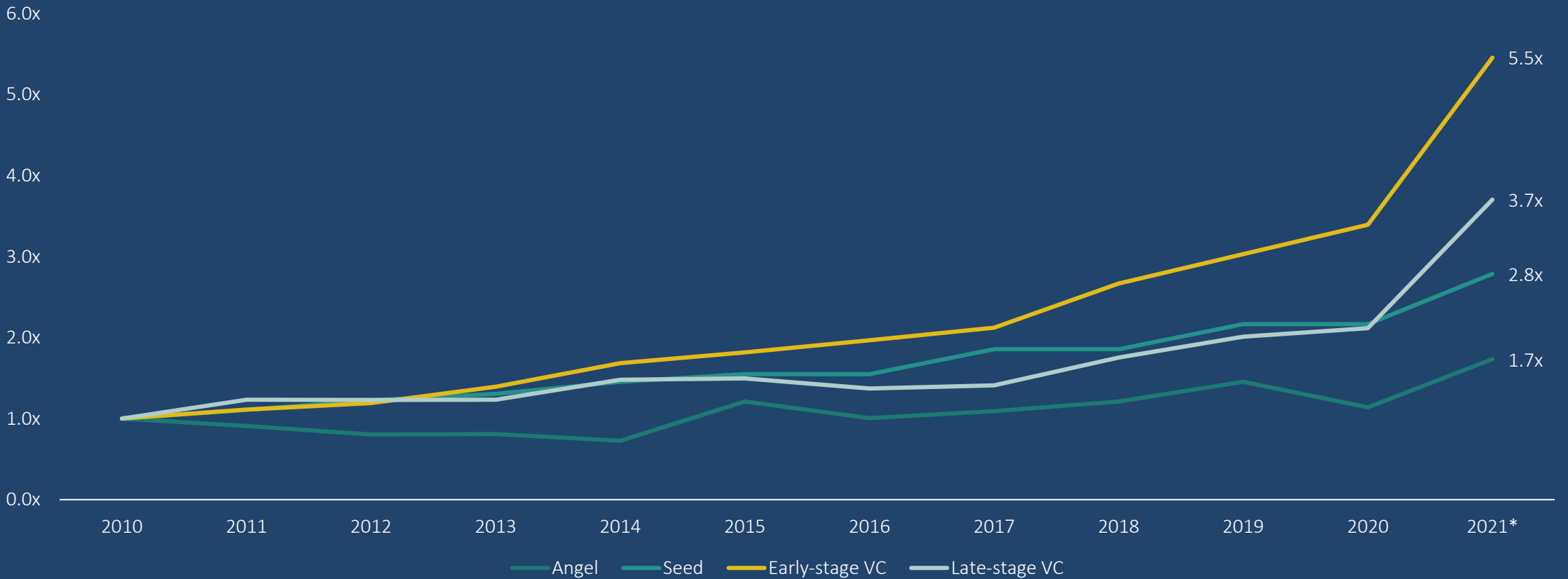


Valuations & exits



Valuations at every stage jumped in 2021, with early-stage values making the biggest gains, increasing 5.5x since 2010...

VC valuations by stage indexed to 1 at 2010

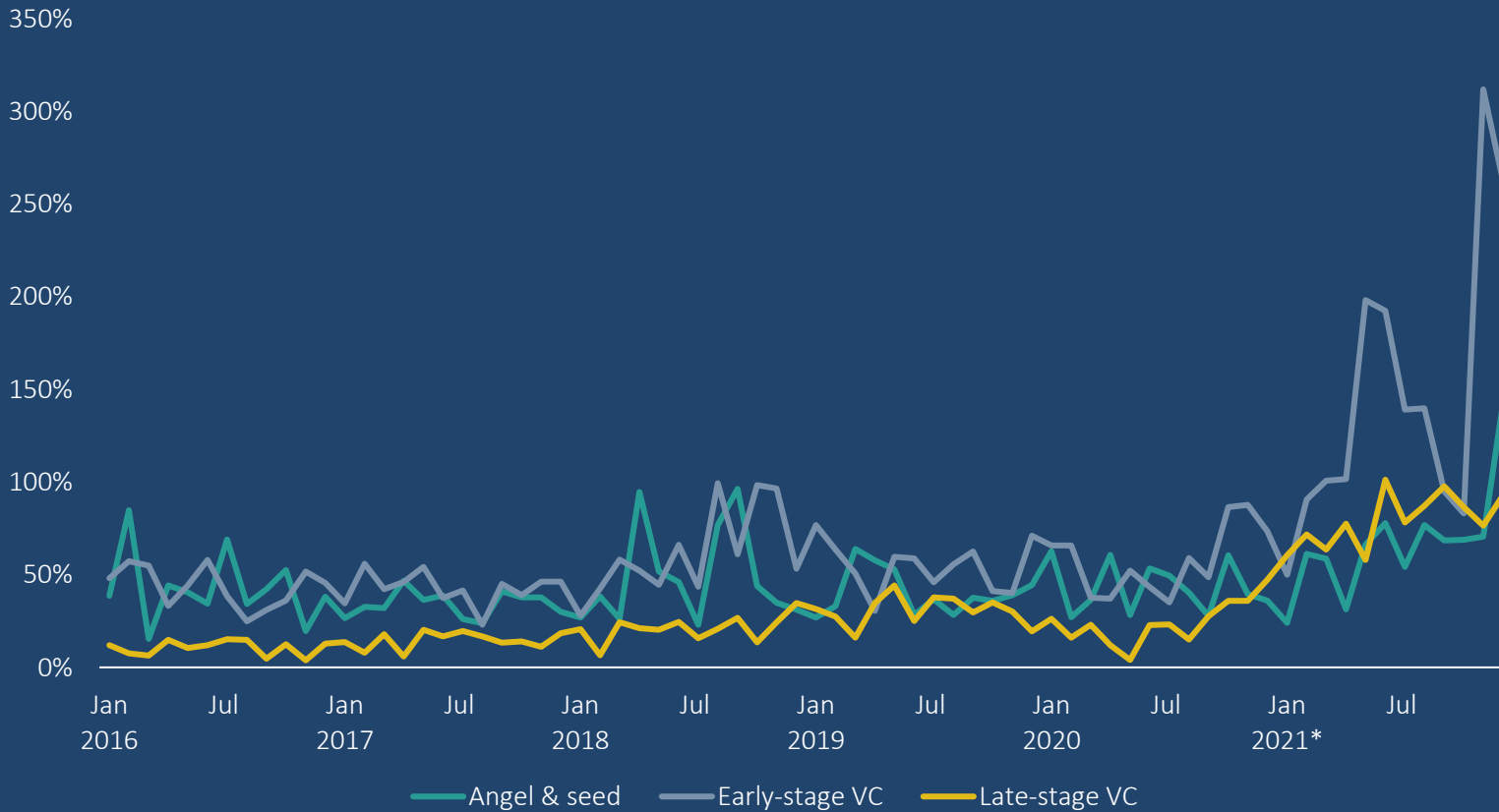


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



...and the velocity of valuation increases spiked in 2021 for the early stage.

VC relative velocity of value creation



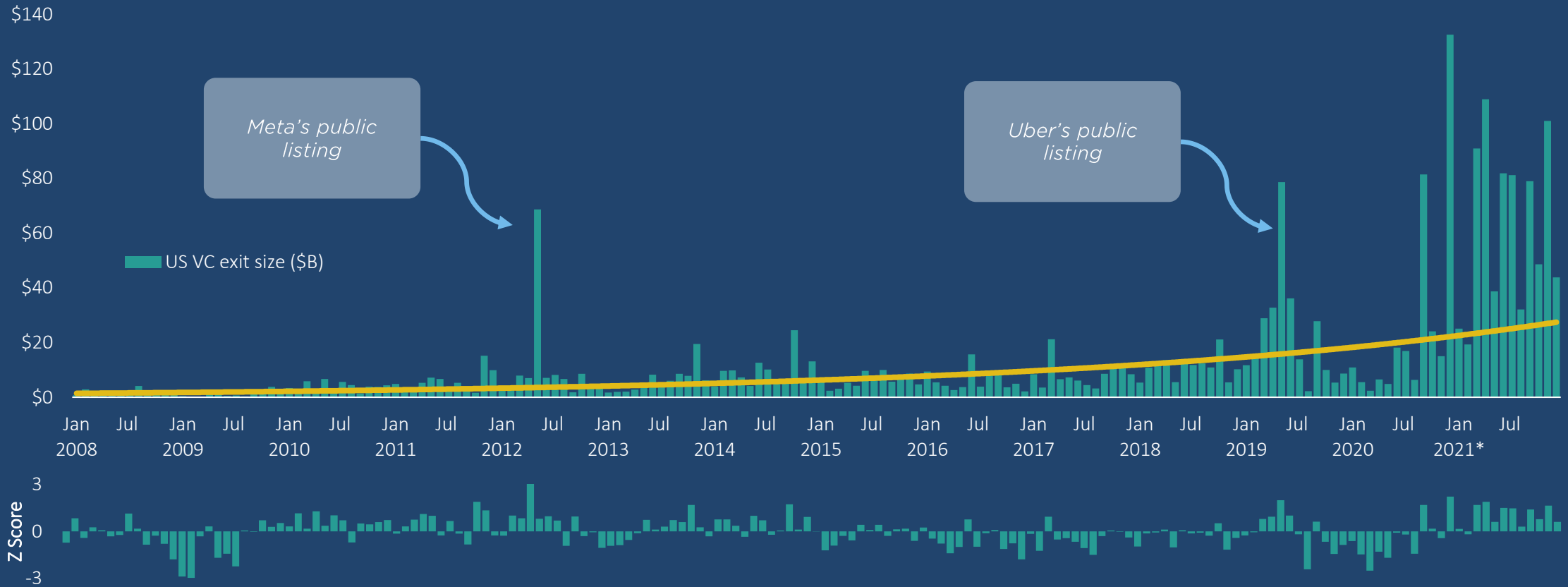
RVVC (relative velocity of value creation) is the percentage increase between the current round's post-value compared to the previous round's pre-value, divided by the years since the last VC round to annualize the data point.

Source: PitchBook | Geography: U.S.
*As of December 31, 2021



Overall exit value was massive in 2021, with 129 exits over \$1 billion occurring...

Monthly VC exit value (\$B) and trend adjusted Z-score

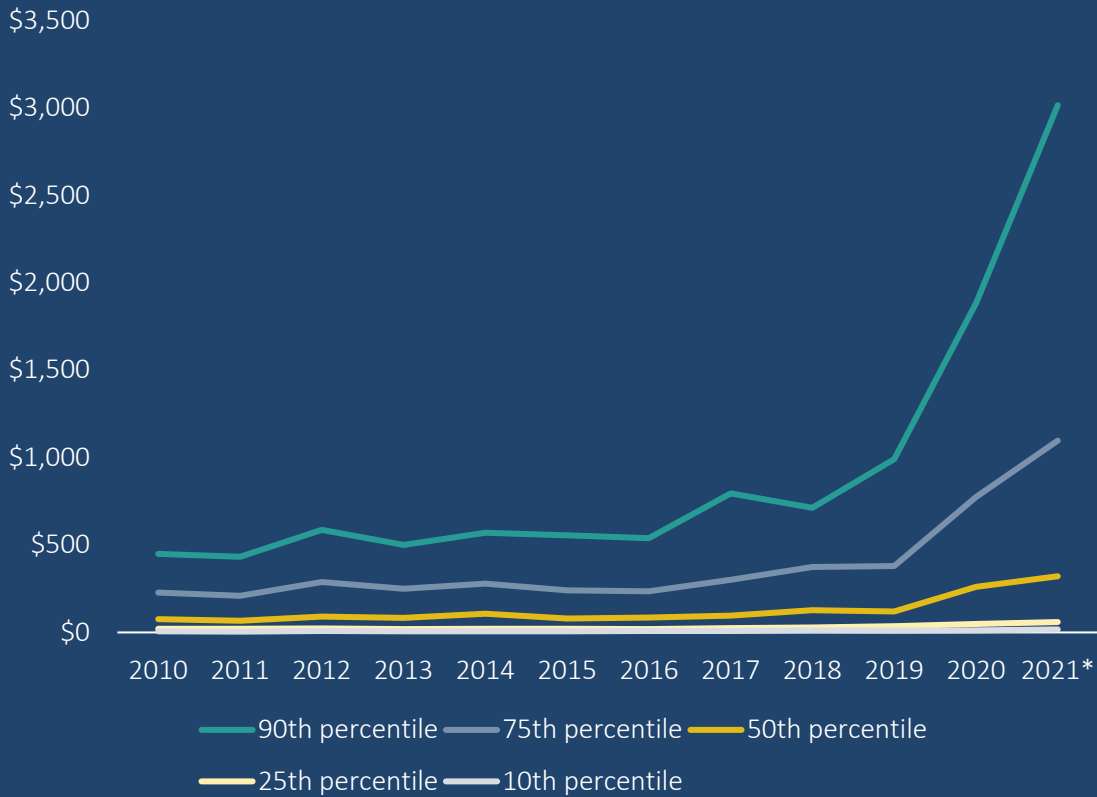


Source: PitchBook | Geography: U.S.
*As of December 31, 2021

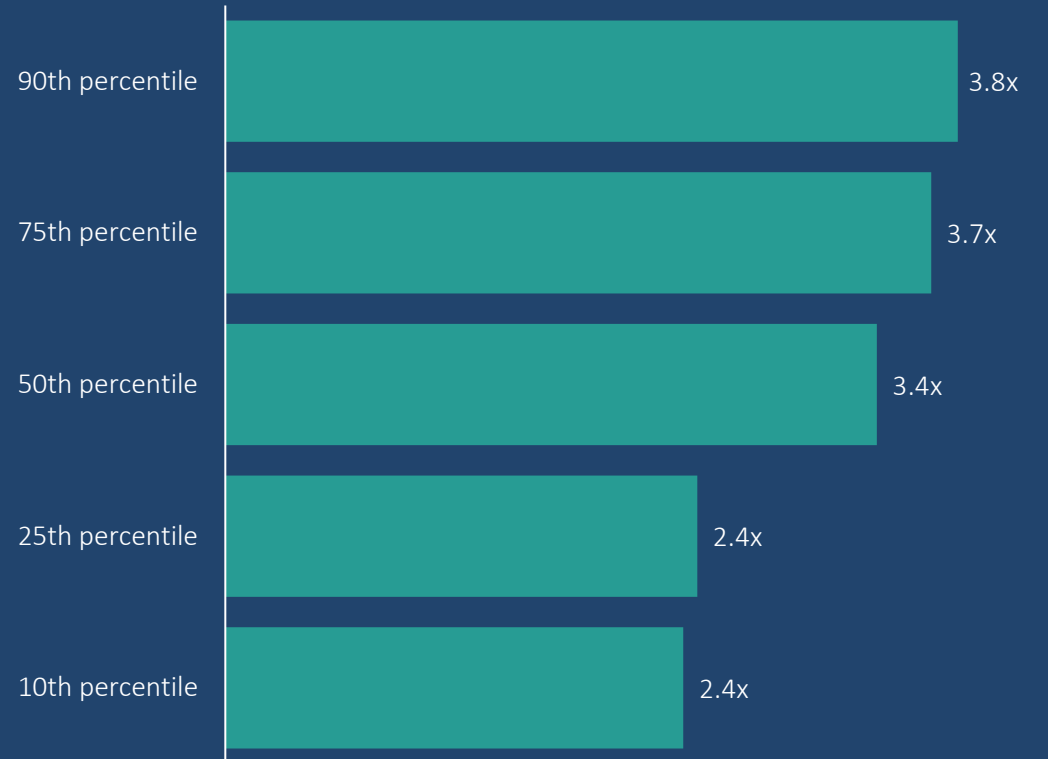


...and exit sizes across the size spectrum jumping up. Impressively, the top end of the market has seen exit valuations increase the most over the past five year.

VC exit valuation (\$M) by percentile



Valuation step-ups since 2017

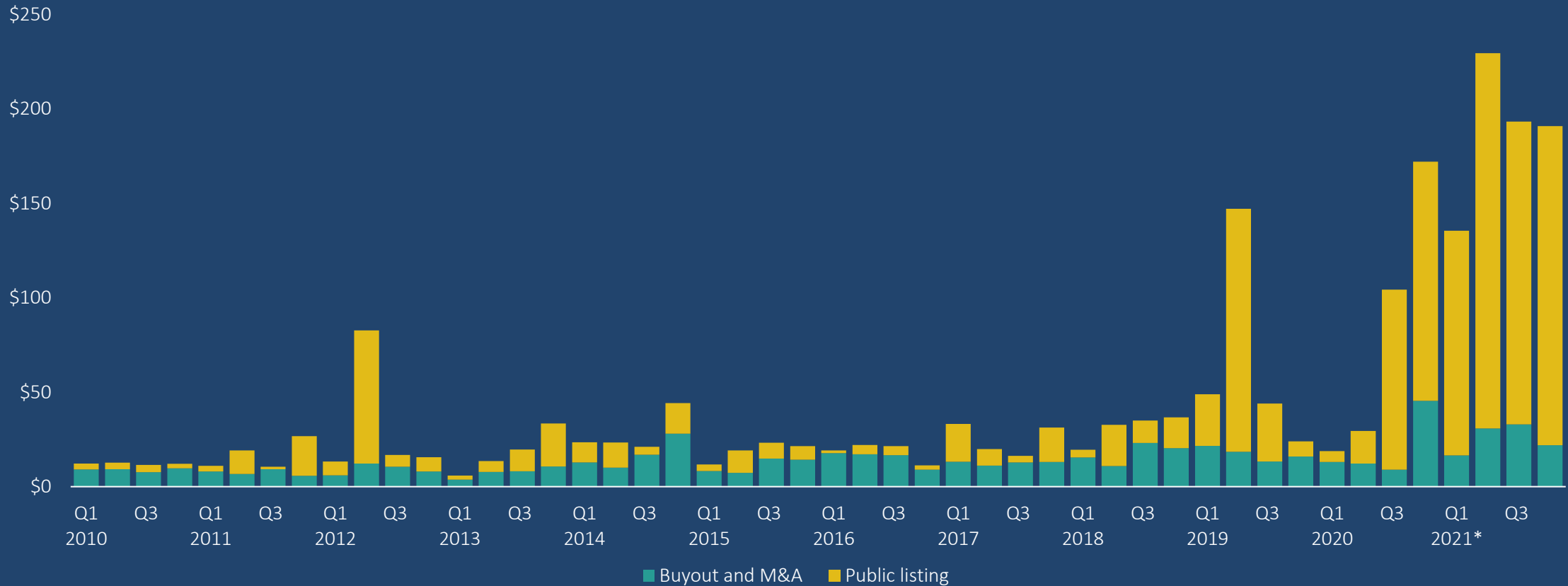


Source: PitchBook | Geography: U.S.
*As of December 31, 2021



The lion's share of that exit value has been driven by public listings, with five listings valued at more than \$25 billion...

Quarterly VC exit value (\$B) by type



Source: PitchBook | Geography: U.S.
*As of December 31, 2021

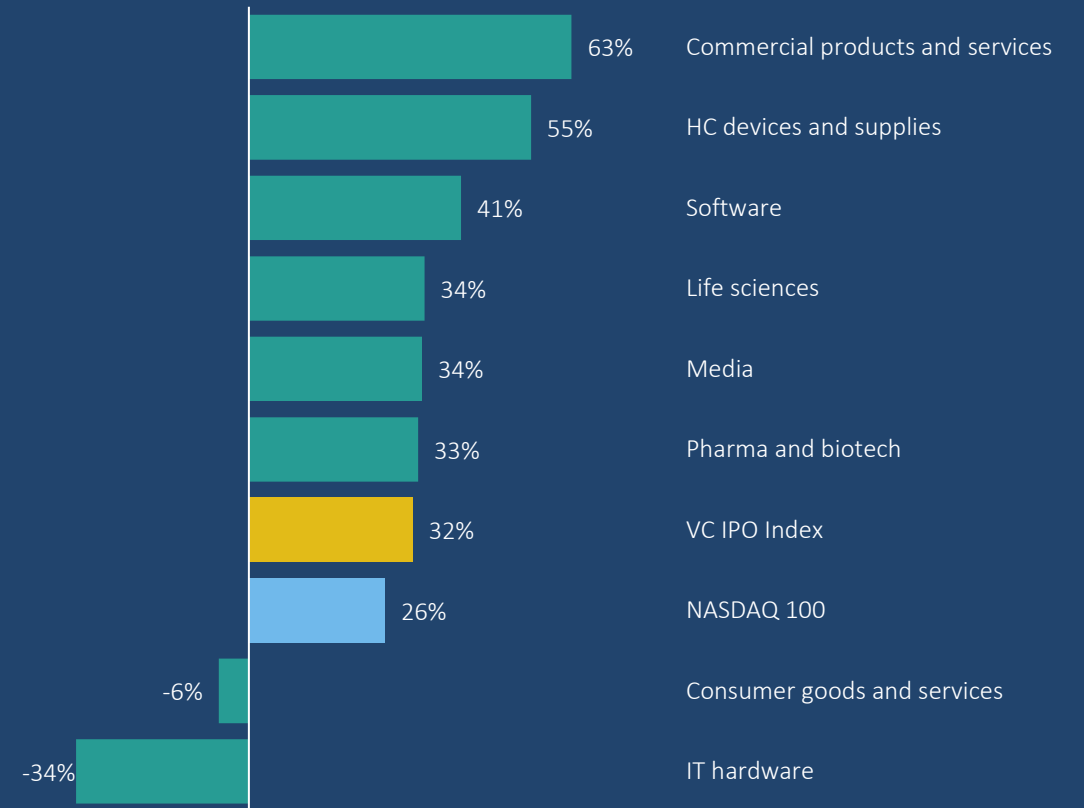


...and during boom times, VC-backed IPOs have tended to outperform broader markets...

VC IPO Index vs NASDAQ 100



Annualized rates of return for selected special industries

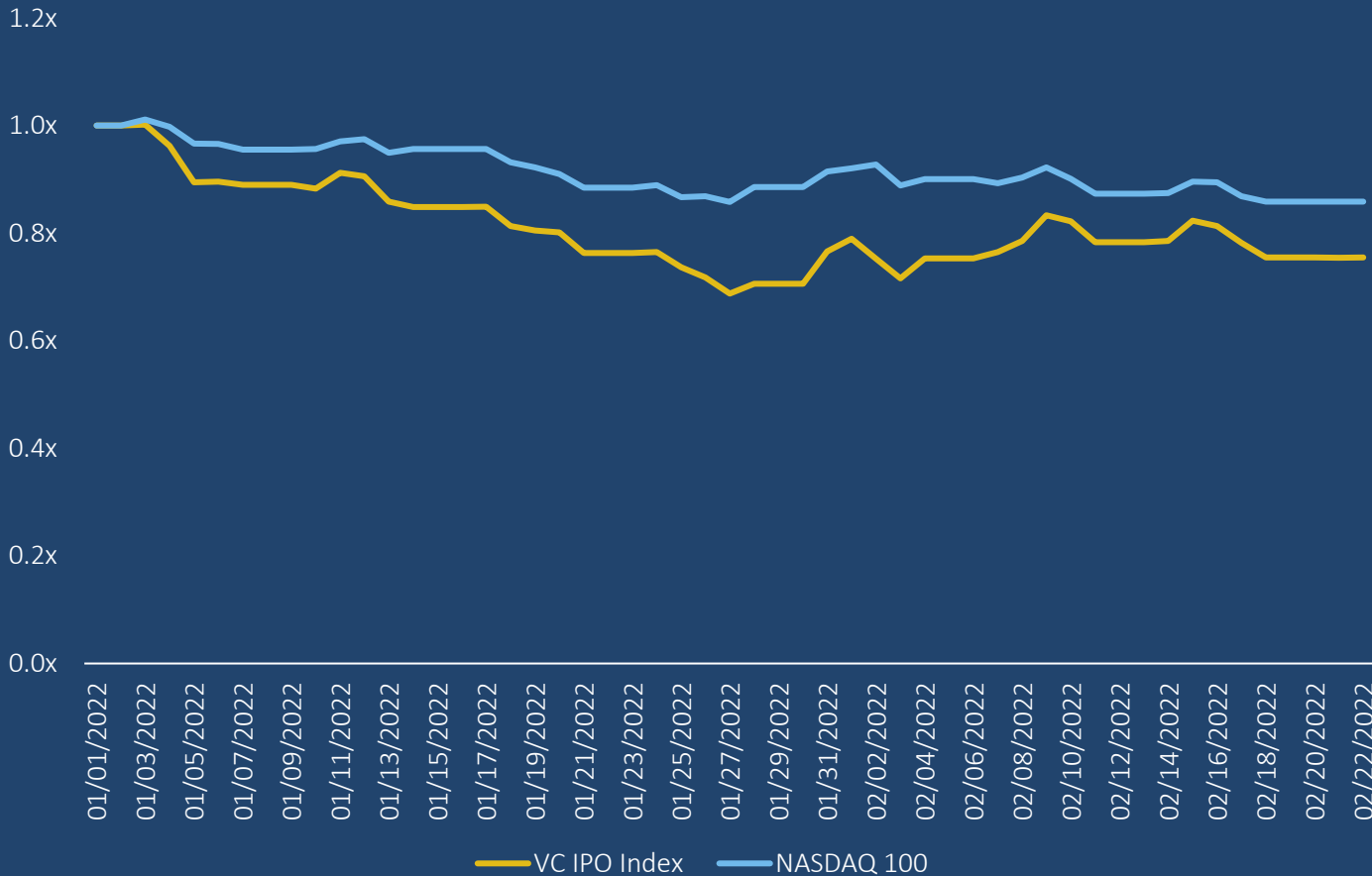


Source: PitchBook | Geography: U.S.
*As of December 31, 2021

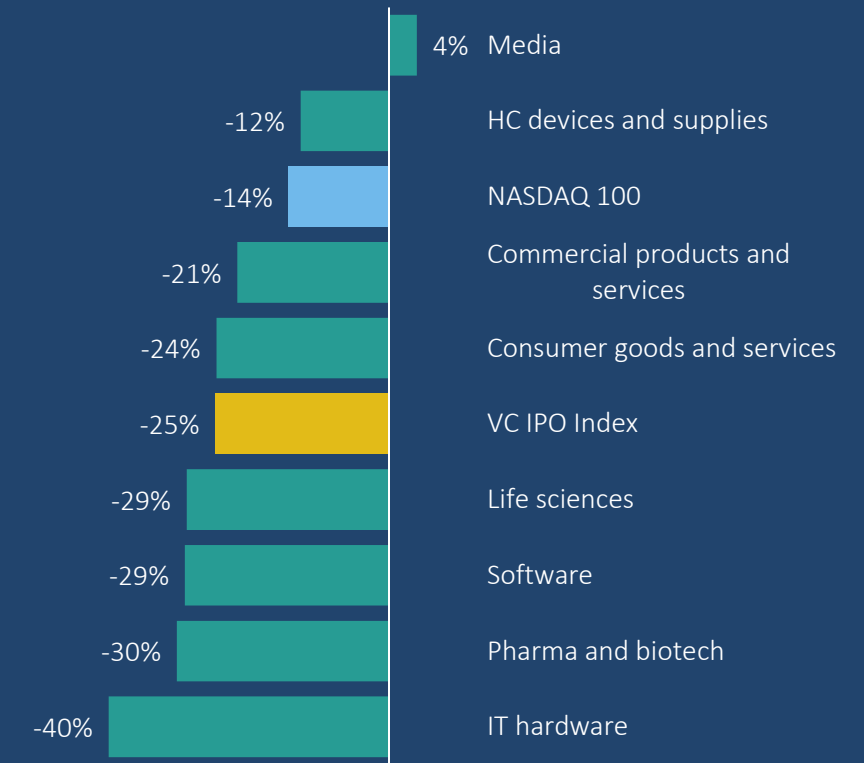


...but lag during pullbacks and corrections indicate higher volatility.

YTD performance of VC IPO index and NASDAQ 100*



YTD performance of selected industries within VC*



Source: PitchBook | Geography: U.S.
*As of February 22, 2022

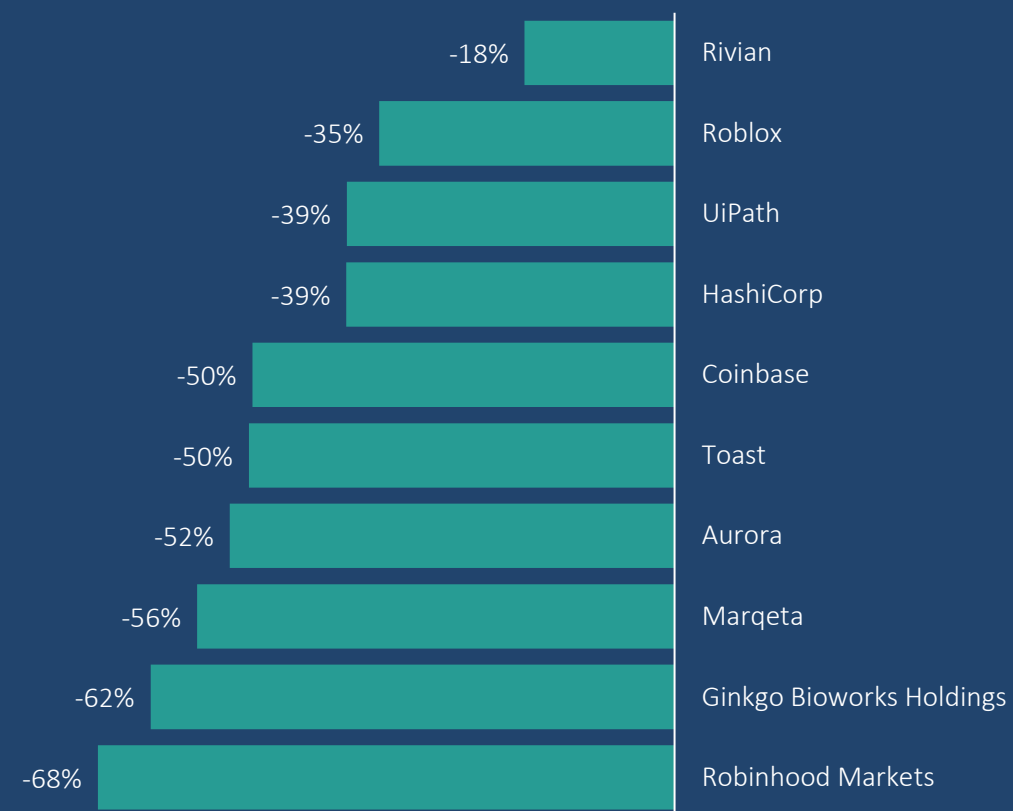


We see that the largest exits of 2021 have faltered from their exit valuations in the public markets,* as a confluence of factors has sent markets tumbling to start the year...

Top 10 VC exits of 2021

Company	Ticker	Exit value (\$B)	Exit Date	Industry	Location
Rivian	NAS: RIVN	\$55.8	11/10/2021	Transportation	Irvine, CA
Coinbase	NAS: COIN	\$48.1	4/14/2021	Software	San Francisco, CA
Roblox	NYSE: RBLX	\$45.3	3/10/2021	Software	San Mateo, CA
Robinhood Markets	NAS: HOOD	\$30.0	7/29/2021	Other	Menlo Park, CA
UiPath	NYSE: PATH	\$27.8	4/21/2021	Software	New York, NY
Toast	NYSE: TOST	\$19.1	9/22/2021	IT hardware	Boston, MA
Ginkgo Bioworks Holdings	DNA	\$14.2	9/17/2021	Biotech & pharma	Boston, MA
Marqeta	NAS: MQ	\$13.1	6/9/2021	Software	Oakland, CA
HashiCorp	NYSE:HCP	\$13.1	12/9/2021	Software	San Francisco, CA
Aurora	AUR	\$11.0	11/4/2021	Transportation	Mountain View, CA

Top 10 VC exits of 2021 by market performance since debut (post value at exit to current market cap)



Source: PitchBook | Geography: U.S.
*As of March 2, 2022



...and public market valuations are high compared to the last 30 years, meaning a correction has the potential to wipe out a mountain of value.

CAPE Shiller P/E Ratio for S&P 500



Source: Shiller | Geography: U.S.



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