PitchBook

QUANTITATIVE PERSPECTIVES

# US Market Insights

Q3 2022

## Introduction

Quite the difference a year makes. Last year, we published the first report in our *US Market Insights* series amid a strong stock market, elevated dealmaking volumes, and accommodative credit conditions. Fast-forward to Q3 2022, and the economic picture is much bleaker. With the Federal Reserve (Fed) raising rates and inflation at high levels, the euphoria of 2021 is a long way back in the rearview mirror. Dealmaking has pulled back, and it seems inevitable that private company valuations will follow their public counterparts. However, with every downturn there are always opportunities. We hope to shed some light on the datasets we find most interesting today.

In this edition of *US Market Insights*, we explore institutional investors' appetite for various strategies by analyzing fundraising and cash flow trends. We offer a bird's-eye view of alternative markets through a macroeconomic lens, providing many of the key metrics our research team tracks across equity markets, real estate, real assets, and fixed income. This report includes data on public markets, private markets, and PitchBook's proprietary quantitative research.

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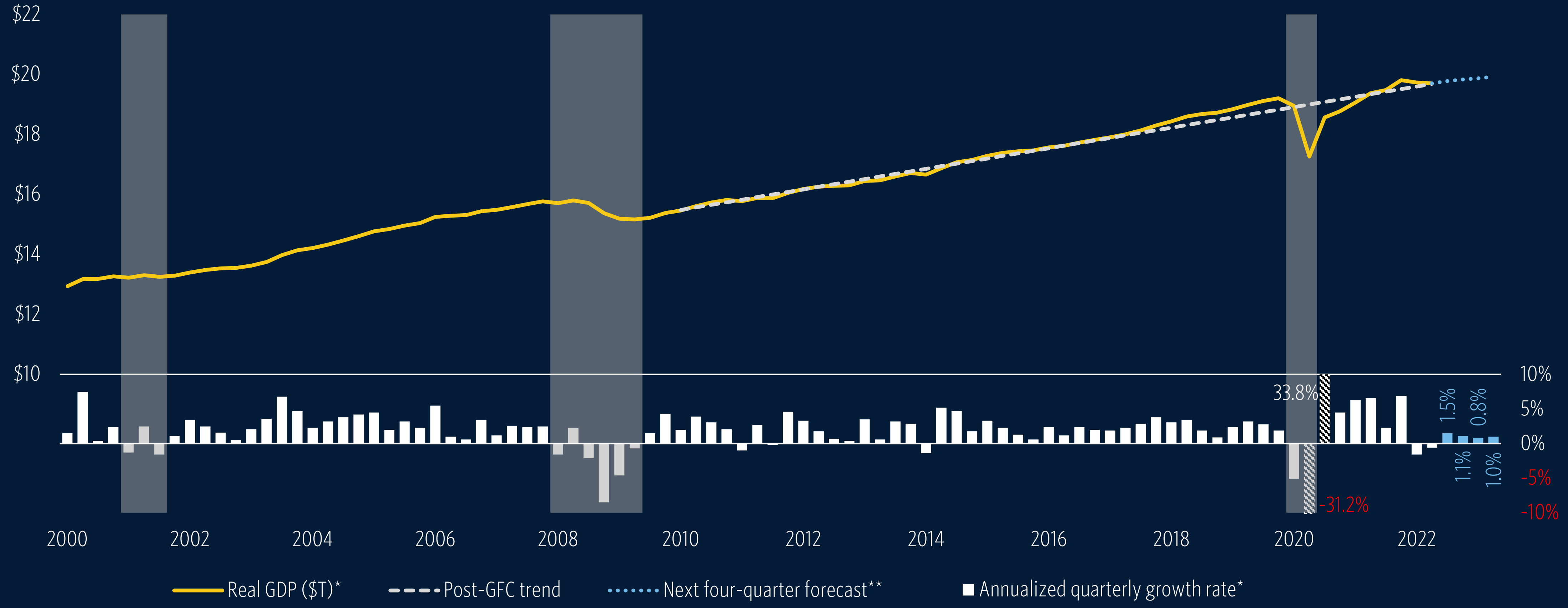
# Macro overview

## Key takeaways

- Two consecutive quarters of negative GDP growth has every professional and amateur economist typing away at recession predictions. Forecasts for the near term do not inspire much hope.
- Coinciding with falling real GDP, consumer sentiment has plummeted to below global financial crisis (GFC) levels.
- The Consumer Price Index (CPI) surprised to the upside with an 8.3% reading for August YoY. Energy prices in the US have remained at elevated levels, though they have come down from the summer peak.
- Given the mixed bag of economic signals, our PE Barometer screens a relatively neutral -0.17 reading, implying slightly below-average fund returns for Q3.
- The hunt for yield has been a staple of institutional investor conversations for years, offering a tailwind for private market allocations as investors seek greater returns. A regime shift to higher rate environment could drastically change the opportunity cost calculus.
- Private equity growth (16.7% net IRRs over 15-year horizon), buyout (13.7%), and venture capital (13.2%) funds have dominated the fund performance rankings over the long term. Whether that outperformance persists in tighter monetary conditions remains to be seen.

# Inflation-induced headwinds have hit the economic recovery in the US. Two consecutive quarters of negative GDP growth and tepid near-term forecasts do not bode well for the economy.

Real GDP growth compared with post-GFC trend

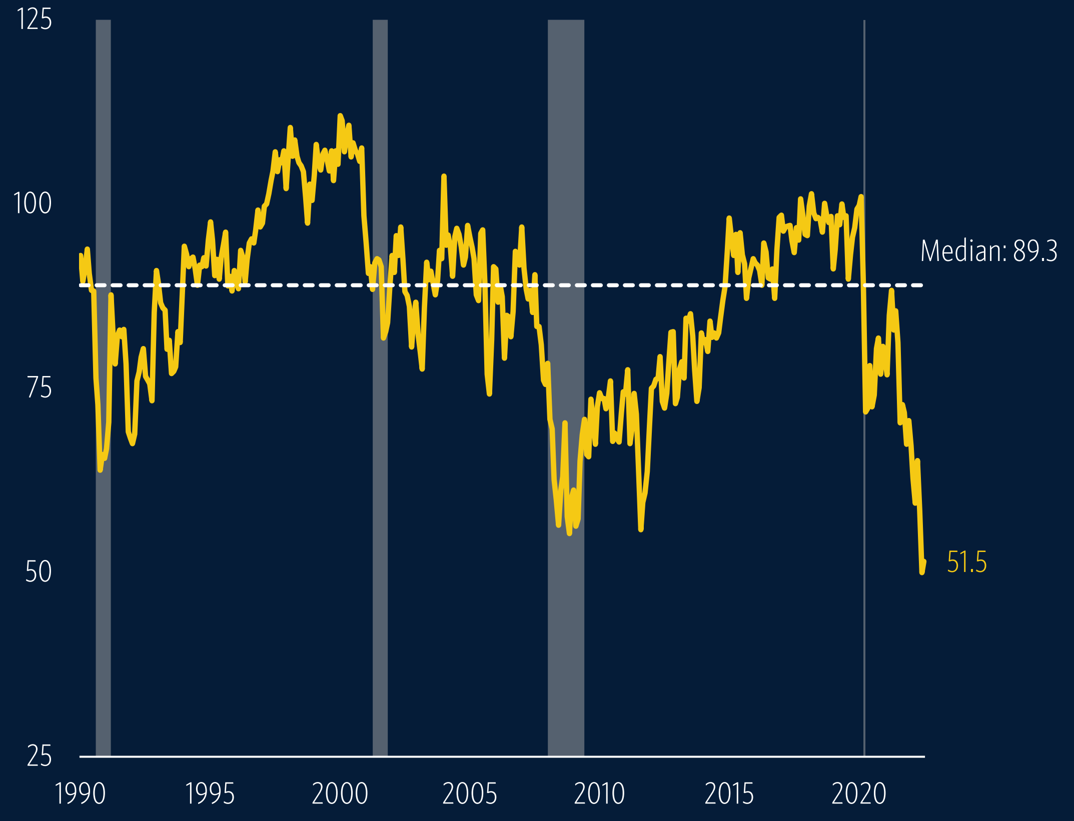



Sources: Bureau of Economic Analysis, WSJ Economic Forecasting Survey | Geography: US

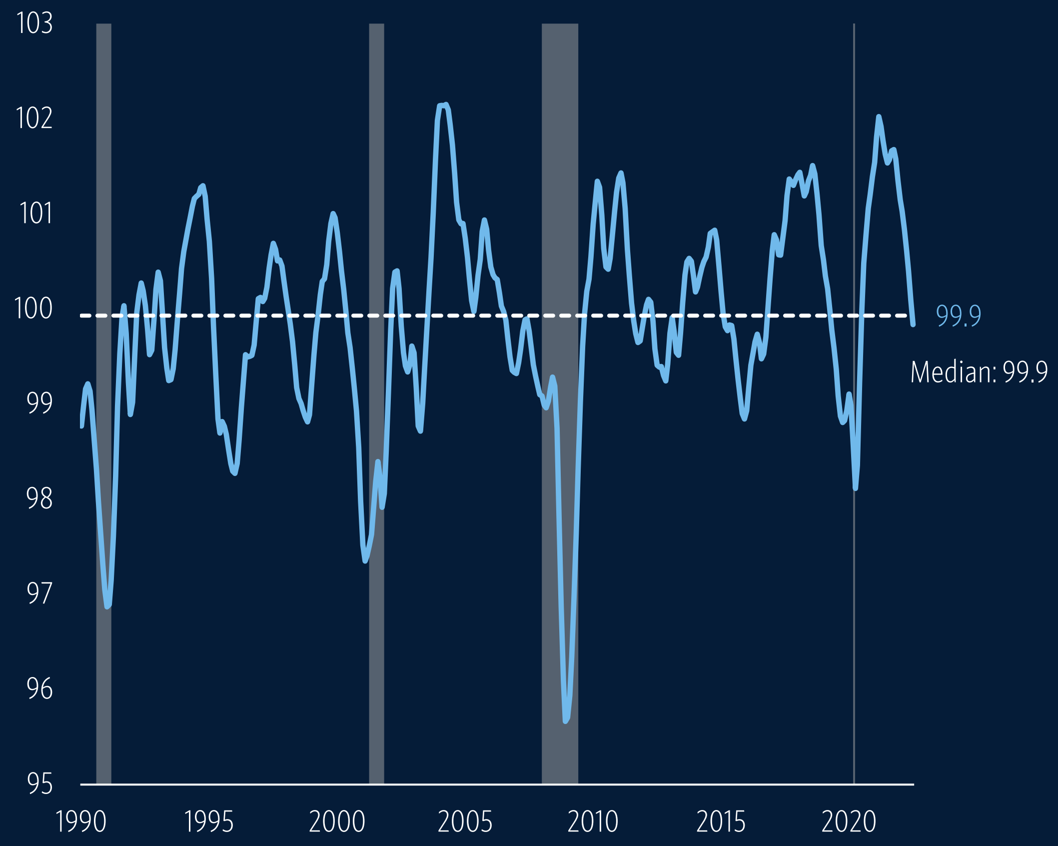
*As of June 30, 2022 | **As of July 31, 2022

# In the swiftly changing economic climate, consumer confidence has plummeted. To muddy the waters, the unemployment situation and business confidence haven't turned quite as negative.

University of Michigan Consumer Sentiment Index*




US Business Confidence Index*

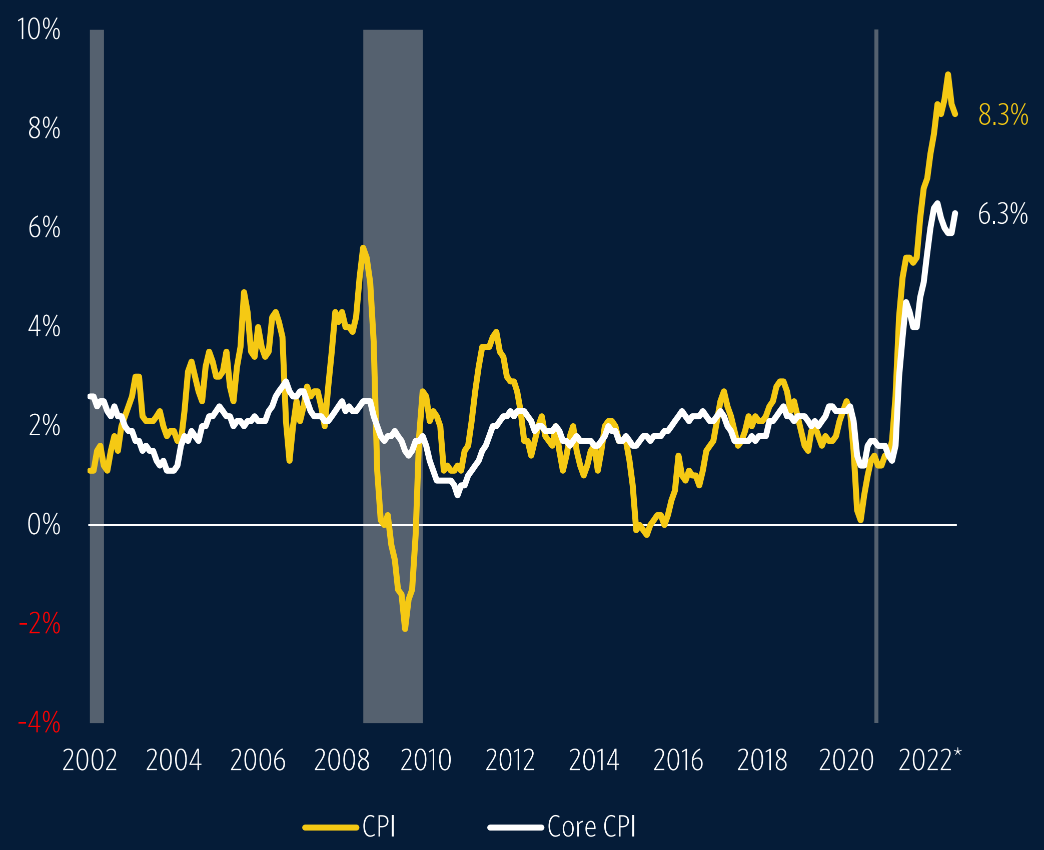



Sources: University of Michigan, OECD | Geography: US

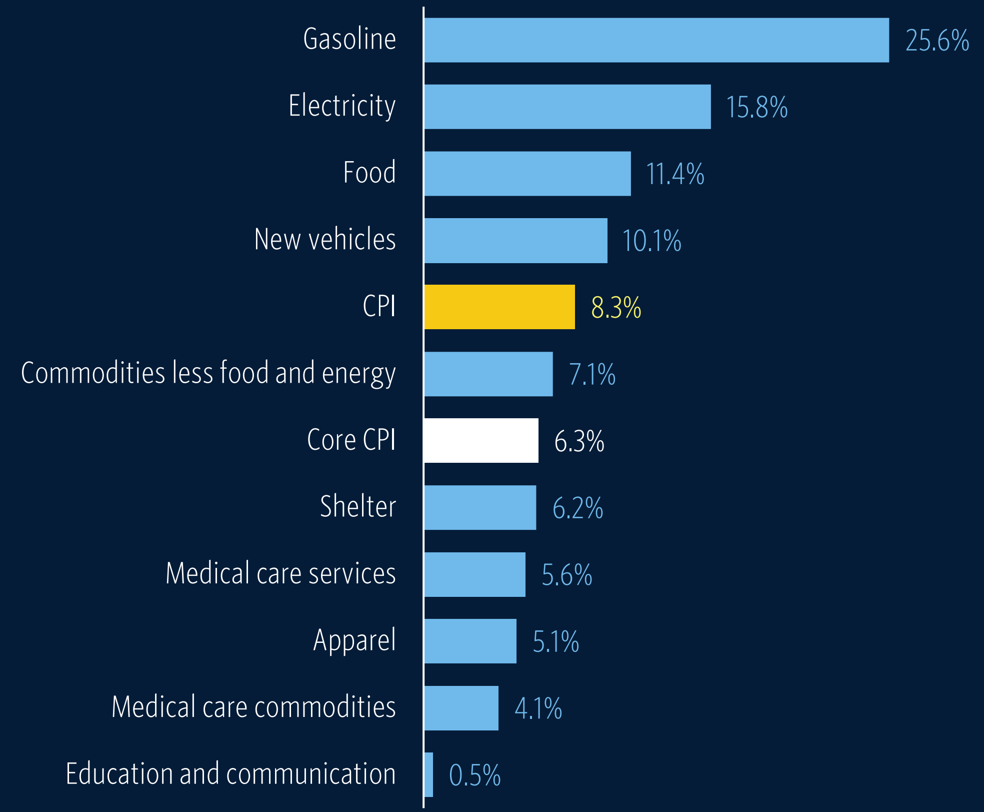
*As of July 31, 2022

# Despite the appearance of a reprieve in July, August CPI came in higher than anticipated. Year-over-year price changes for energy and food continue to hurt consumer wallets.

Consumer Price Index (CPI)




CPI one-year change by select categories for August 2022*

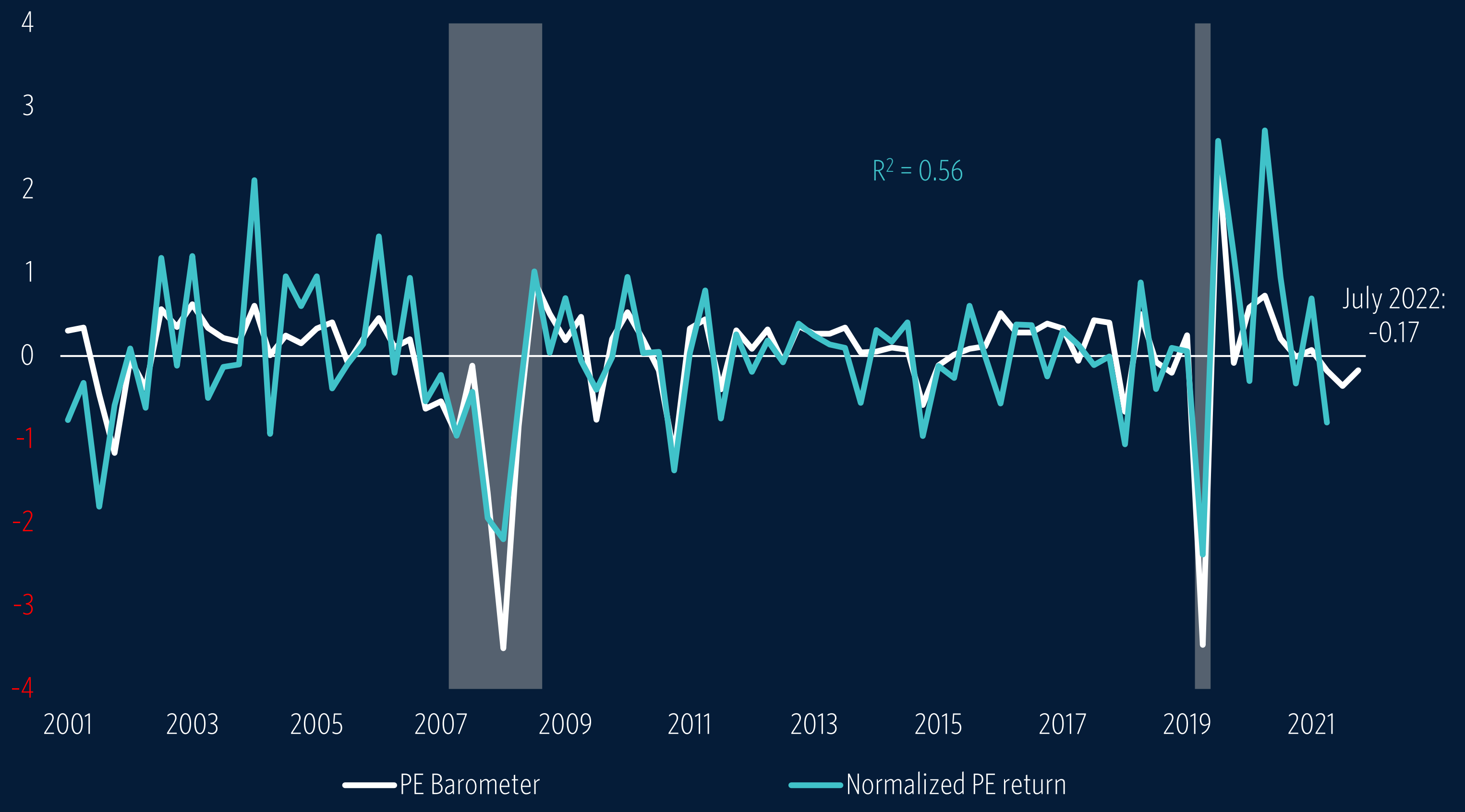



Source: Bureau of Labor Statistics | Geography: US

*As of August 31, 2022

## Challenges in the macroeconomic climate notwithstanding, our PE Barometer signals a fairly neutral environment for fund returns.

PitchBook PE Barometer*




Sources: FRED, PitchBook | Geography: US

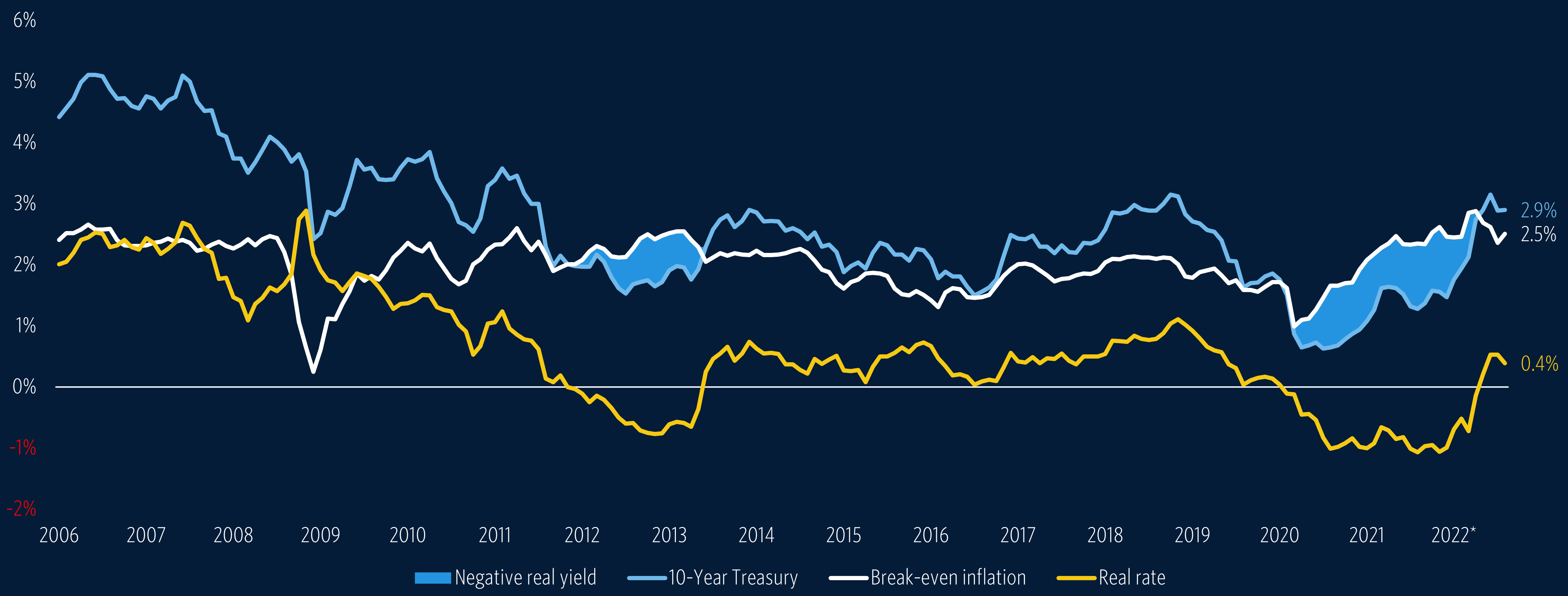
*As of July 31, 2022

Our PE Barometer is a factor-based framework that estimates the strength of the current return environment based on key economic and market indicators. The current score of -0.17 is relatively neutral, given the mixed bag of economic and market data.

For more information, please see our full breakdown and methodology available on the PitchBook website.

# High short-term inflation has not yet translated into spiking long-term expectations, though the generationally low yields of late 2020 and early 2021 feel like ancient history.

10-Year Treasury real versus nominal rates



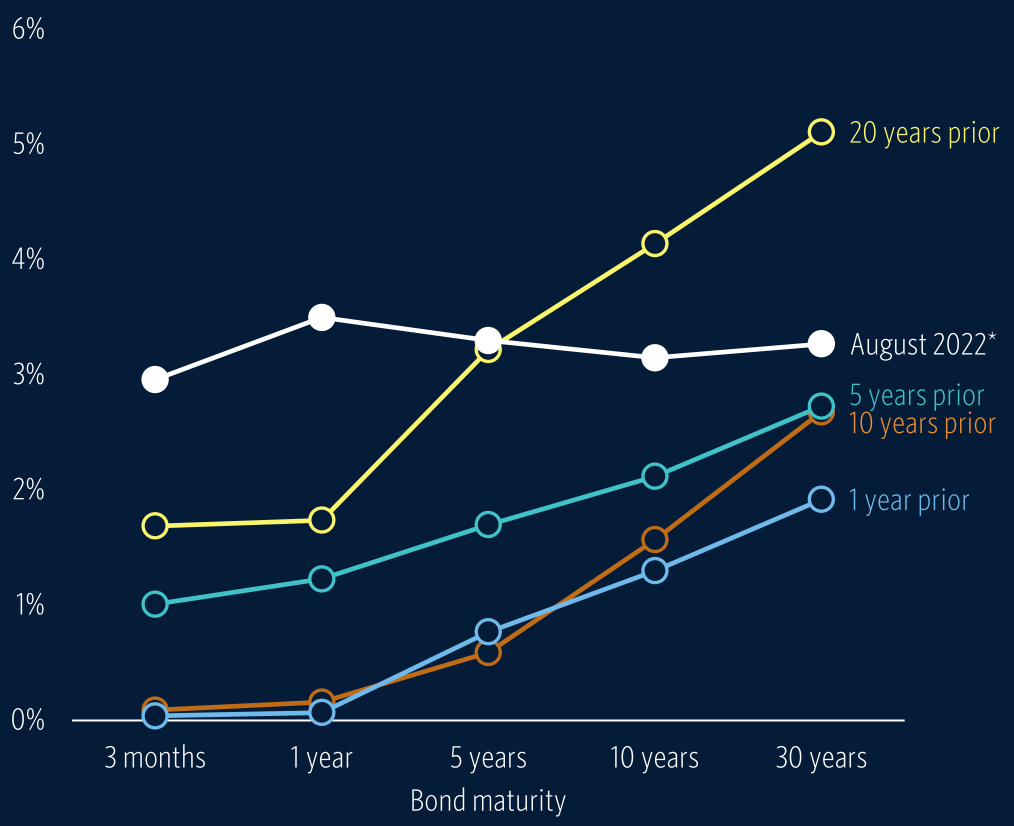

Source: FRED | Geography: US

*As of August 31, 2022

## Rising 10-year bond rates may start to adjust the calculus for allocations in risky assets by institutional investors. Complicating the picture is an inversion of the Treasury yield curve.

US pension plan return assumptions versus 10-Year Treasury


Treasury market yield curve




Sources: FRED, National Association of State Retirement Administrators | Geography: US

*As of August 31, 2022

## The recent reversal in public markets yields compared with still-rich pricing for LBOs makes private equity look relatively less attractive.

Yearly average yields on select asset classes


Sources: LCD, Ice Data Indices, Robert Shiller | Geography: US

*As of August 31, 2022 | **As of July 31, 2022

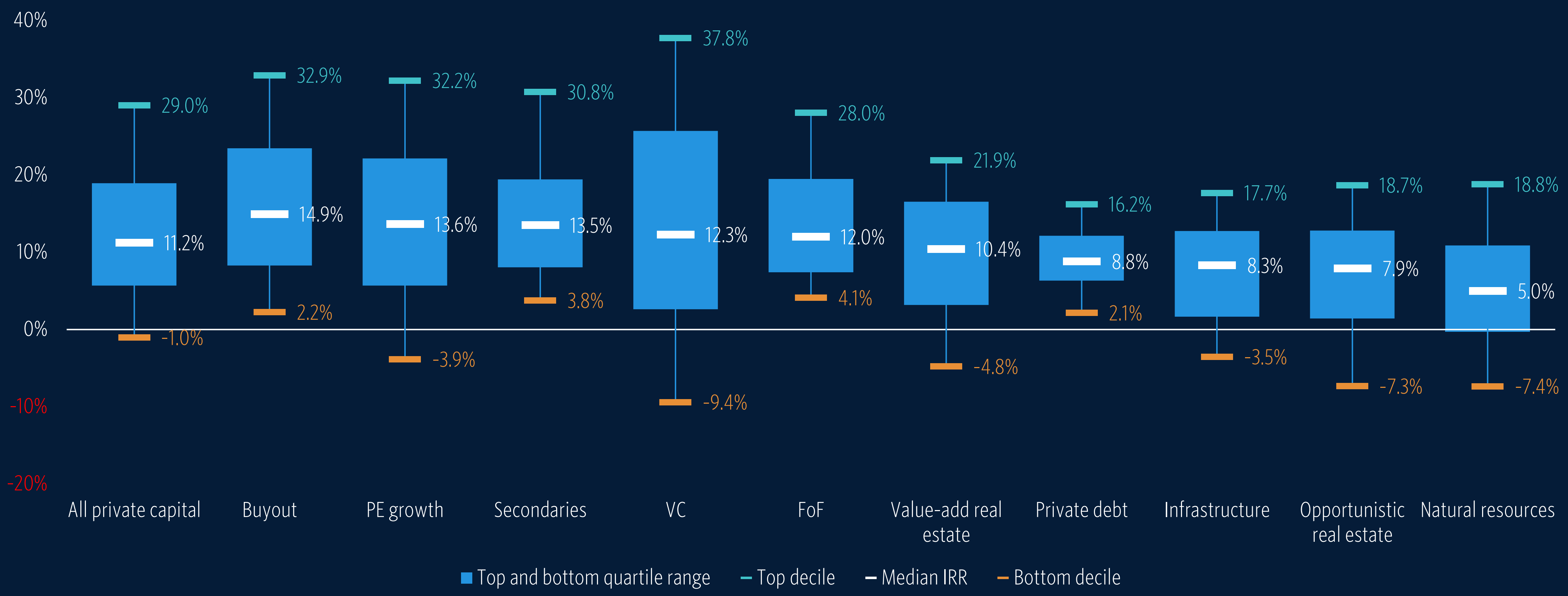
For each metric, we used the average for the calendar year. Data definitions:

- S&P 500 earnings yield: the inverse of the trailing 12-month price-to-earnings multiple.
- ICE BofA high-yield corporate: the yield on high-yield (below investment-grade) corporate bonds as published by ICE and Bank of America.
- LBO EBITDA yield: the inverse of the average purchase-price-to-EBITDA multiple in buyout transactions.

While each yield is not directly comparable, tracking valuations in terms common to the respective asset classes offers a useful exercise for relative pricing analysis.

## Allocating capital in private markets is a risk-reward challenge. Historical returns offer an important starting point for an investor evaluating the private markets.

Dispersion of private, closed-end fund net IRRs by strategy (vintages 2002 to 2016)*




Source: PitchBook | Geography: US

*As of December 31, 2021

# Outperformance of growth prior to 2022 permeated the private markets for the last few years, with VC and PE growth funds leading the way on annual performance across private markets.

One-year pooled IRRs by strategy

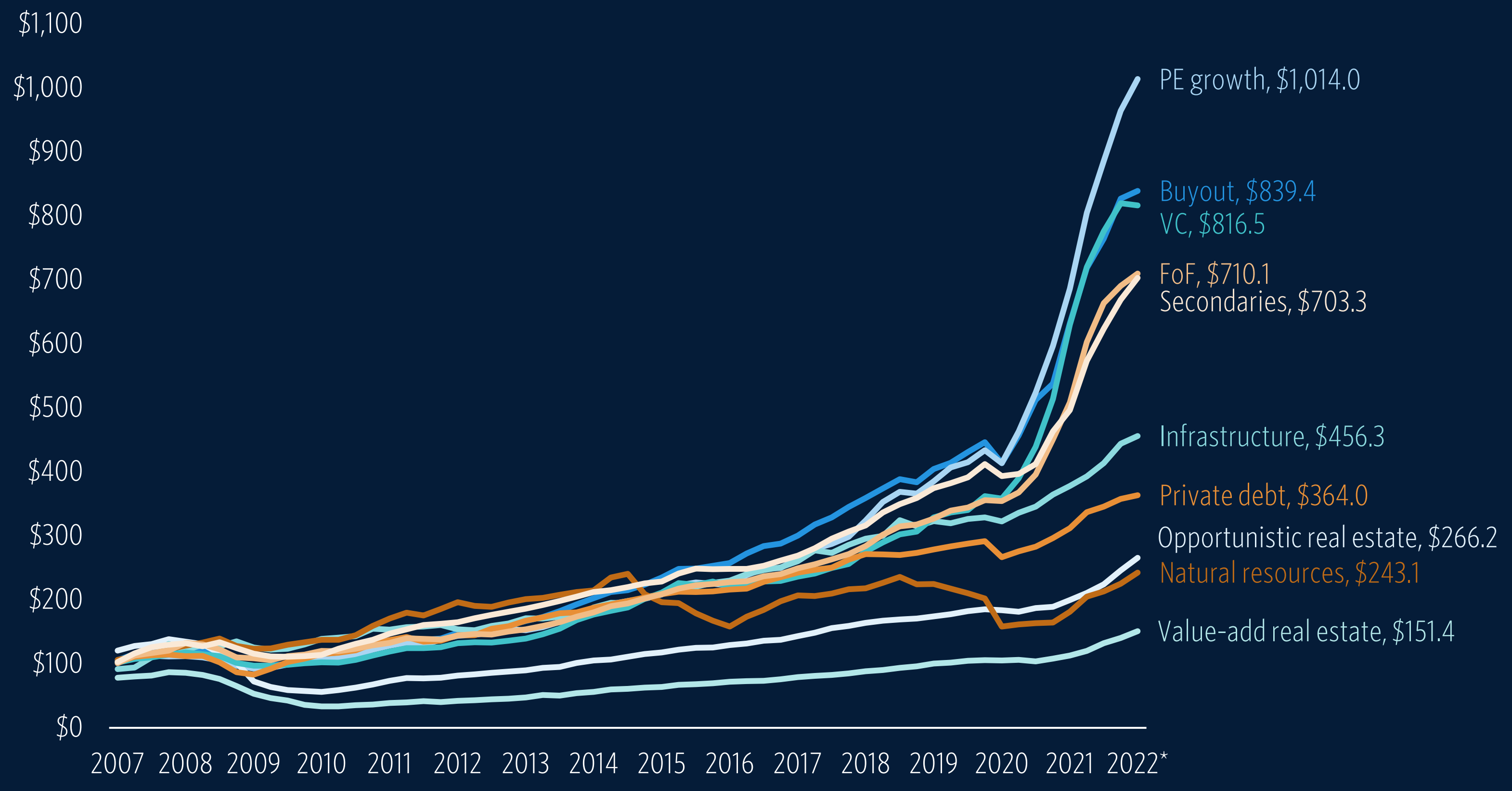
| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021* | 15-year horizon IRR* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Infrastructure 44.1% | Natural resources 1.9% | Private debt 19.9% | Secondaries 22.5% | Secondaries 18.4% | Private debt 16.0% | VC 22.2% | VC 20.1% | Value-Add real estate 14.4% | Natural resources 18.9% | PE growth 21.0% | PE growth 20.3% | PE growth 19.2% | PE growth 39.0% | PE growth 57.8% | PE growth 16.3% |
| Secondaries 28.7% | Secondaries -8.1% | Buyout 8.5% | Natural resources 19.3% | Natural resources 16.4% | Buyout 14.6% | Buyout 20.3% | Infrastructure 16.9% | Buyout 14.3% | Buyout 14.2% | Buyout 19.4% | VC 19.3% | VC 17.2% | VC 38.2% | VC 55.2% | Buyout 13.7% |
| Opportunistic real estate 24.5% | Infrastructure -9.1% | PE growth 6.1% | Buyout 18.5% | Opportunistic real estate 14.2% | All private capital 12.9% | Value-Add real estate 18.9% | Opportunistic real estate 16.8% | VC 12.7% | All private capital 11.1% | Secondaries 17.1% | Secondaries 17.2% | Buyout 15.5% | FoF 25.7% | Buyout 50.3% | VC 13.2% |
| Buyout 24.0% | FoF -10.7% | Natural resources 3.3% | Private debt 17.0% | Value-Add real estate 12.6% | PE growth 12.2% | Opportunistic real estate 17.6% | FoF 16.0% | PE growth 11.7% | PE growth 10.9% | All private capital 15.4% | FoF 15.8% | Secondaries 14.1% | Buyout 20.9% | FoF 48.1% | Secondaries 13.0% |
| All private capital 19.5% | VC -11.9% | All private capital 2.6% | Opportunistic real estate 16.9% | PE growth 12.3% | Secondaries 11.9% | All private capital 17.2% | Buyout 15.9% | FoF 11.3% | Private debt 10.1% | Opportunistic real estate 14.9% | Value-Add real estate 13.7% | FoF 12.1% | All private capital 15.7% | All private capital 42.3% | FoF 12.3% |
| FoF 18.3% | PE growth -13.4% | FoF 2.3% | All private capital 16.8% | VC 11.1% | Value-Add real estate 11.1% | FoF 14.5% | PE growth 15.5% | All private capital 10.2% | Opportunistic real estate 9.7% | Infrastructure 13.4% | Buyout 10.9% | All private capital 10.8% | Secondaries 13.1% | Secondaries 41.6% | All private capital 12.0% |
| Private debt 15.1% | All private capital -18.9% | VC -0.4% | PE growth 16.1% | All private capital 9.6% | Opportunistic real estate 10.9% | Private debt 13.9% | Value-Add real estate 14.8% | Secondaries 10.1% | Value-Add real estate 9.1% | FoF 12.8% | All private capital 10.8% | Value-Add real estate 8.8% | Infrastructure 10.9% | Natural resources 34.1% | Private debt 9.0% |
| VC 13.5% | Buyout -20.1% | Infrastructure -6.9% | FoF 12.2% | Buyout 9.6% | FoF 9.1% | PE growth 12.7% | All private capital 14.6% | Infrastructure 9.8% | Infrastructure 8.7% | Value-Add real estate 11.5% | Infrastructure 9.0% | Opportunistic real estate 7.5% | Opportunistic real estate 3.9% | Opportunistic real estate 27.0% | Opportunistic real estate 8.6% |
| Natural resources 13.3% | Value-Add real estate -26.2% | Secondaries -10.9% | VC 11.4% | FoF 7.6% | Infrastructure 7.9% | Secondaries 12.5% | Private debt 12.5% | Opportunistic real estate 9.2% | FoF 6.7% | Private debt 11.2% | Opportunistic real estate 6.5% | Private debt 6.7% | Value-Add real estate 2.9% | Value-Add real estate 26.4% | Infrastructure 8.6% |
| PE growth -1.2% | Private debt -26.8% | Opportunistic real estate -36.9% | Infrastructure 10.7% | Infrastructure 5.6% | VC 7.4% | Natural resources 7.4% | Secondaries 10.8% | Private debt 5.8% | Secondaries 5.8% | VC 10.3% | Private debt 5.4% | Infrastructure 3.0% | Private debt 2.2% | Infrastructure 19.1% | Value-Add real estate 5.0% |
| Value-Add real estate -8.1% | Opportunistic real estate -28.1% | Value-Add real estate -45.9% | Value-Add real estate 0.1% | Private debt 4.7% | Natural resources 5.6% | Infrastructure 1.7% | Natural resources -1.4% | Natural resources -19.1% | VC -0.5% | Natural resources 10.0% | Natural resources 3.9% | Natural resources -9.5% | Natural resources -16.0% | Private debt 18.4% | Natural resources 4.2% |

Source: PitchBook | Geography: US

*As of December 31, 2021

## The recent outperformance has led to widening dispersion of returns in a market portfolio of funds. Reversion to the mean may be painful.

Hypothetical growth of $100 invested at the beginning of 2007 by closed-end fund strategy




Source: PitchBook | Geography: US

*As of March 31, 2022

This assumes investing in our universe of funds with available cash flows and net asset value. It is a hypothetical result if one were able to invest in the "market" portfolio of available funds. We use our quarterly returns series available in PitchBook's Benchmarks report to calculate the growth in asset value. Actual results experienced by limited partners will vary widely.

# A diversified portfolio should consider strategy return correlations. This is especially true in market downturns.

Correlation matrix of de-smoothed quarterly returns (Q1 2007 to Q1 2022 preliminary results)*

| | Buyout | PE growth | Opportunistic real estate | Value-add real estate | Infrastructure | VC | Natural resources | Private debt | FoF | Secondaries |
|---|---|---|---|---|---|---|---|---|---|---|
| Buyout | 1.00 | | | | | | | | | |
| PE growth | 0.81 | 1.00 | | | | | | | | |
| Opportunistic real estate | 0.43 | 0.30 | 1.00 | | | | | | | |
| Value-add real estate | 0.24 | 0.34 | 0.38 | 1.00 | | | | | | |
| Infrastructure | 0.20 | 0.16 | 0.16 | 0.33 | 1.00 | | | | | |
| VC | 0.77 | 0.79 | 0.33 | 0.38 | 0.15 | 1.00 | | | | |
| Natural resources | 0.57 | 0.55 | 0.23 | 0.12 | 0.18 | 0.37 | 1.00 | | | |
| Private debt | 0.74 | 0.58 | 0.26 | 0.15 | 0.09 | 0.46 | 0.49 | 1.00 | | |
| FoF | 0.59 | 0.72 | 0.23 | 0.39 | 0.04 | 0.75 | 0.37 | 0.51 | 1.00 | |
| Secondaries | 0.44 | 0.56 | 0.42 | 0.45 | 0.14 | 0.55 | 0.38 | 0.33 | 0.62 | 1.00 |

Source: PitchBook | Geography: US

*As of March 31, 2022

The correlation matrix is calculated based on the de-smoothed quarterly returns of each asset class. You can see more details in our Return Smoothing in Private Markets report.

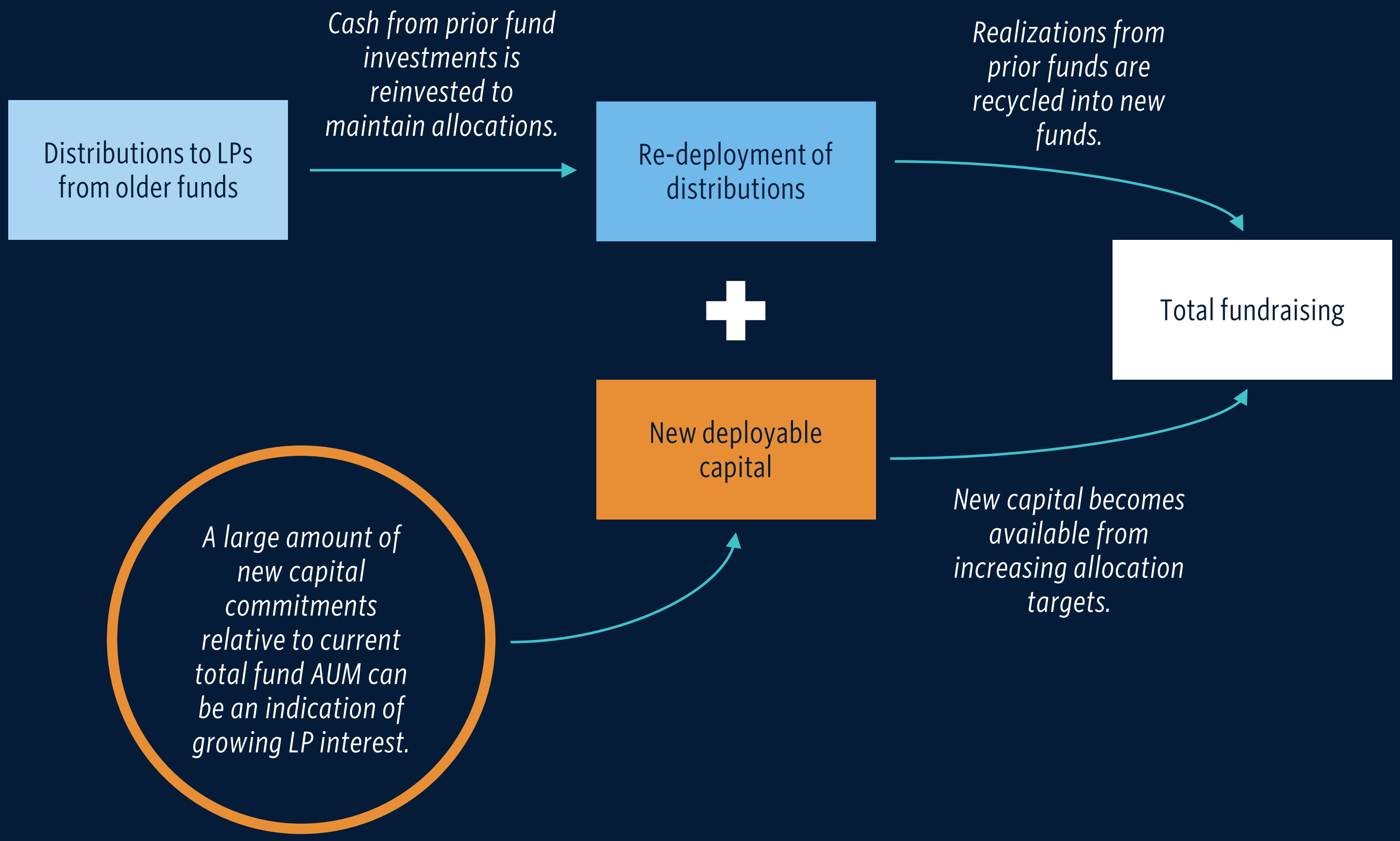
# Spotlight: Tracking allocator momentum

## Key takeaways

- In this section, we estimate the amount of new capital coming into various fund strategies by looking at our fund cash flow and fundraising data. The estimate is used to proxy for new investor interest from increasing allocations and new limited partners.
- Venture capital funds have the highest amount of new capital in 2021 by our estimates ($91.0 billion) followed by PE growth funds at $57.4 billion.
- By comparing our figures against total AUM, we create a more comparable metric of new capital that's relative to the size of the asset class, allowing for more apples-to-apples comparisons on the trends.
- With those normalized figures, we have found that real estate and infrastructure debt funds saw the largest increase in new allocations in 2021.
- In 2022, the infrastructure strategy has seen the most momentum; oil & gas funds still lag considerably.

## In this section we explore two broad sources of LP commitments: recycled distributions and new deployable capital.

Simplified fundraising sources for LP fund commitments



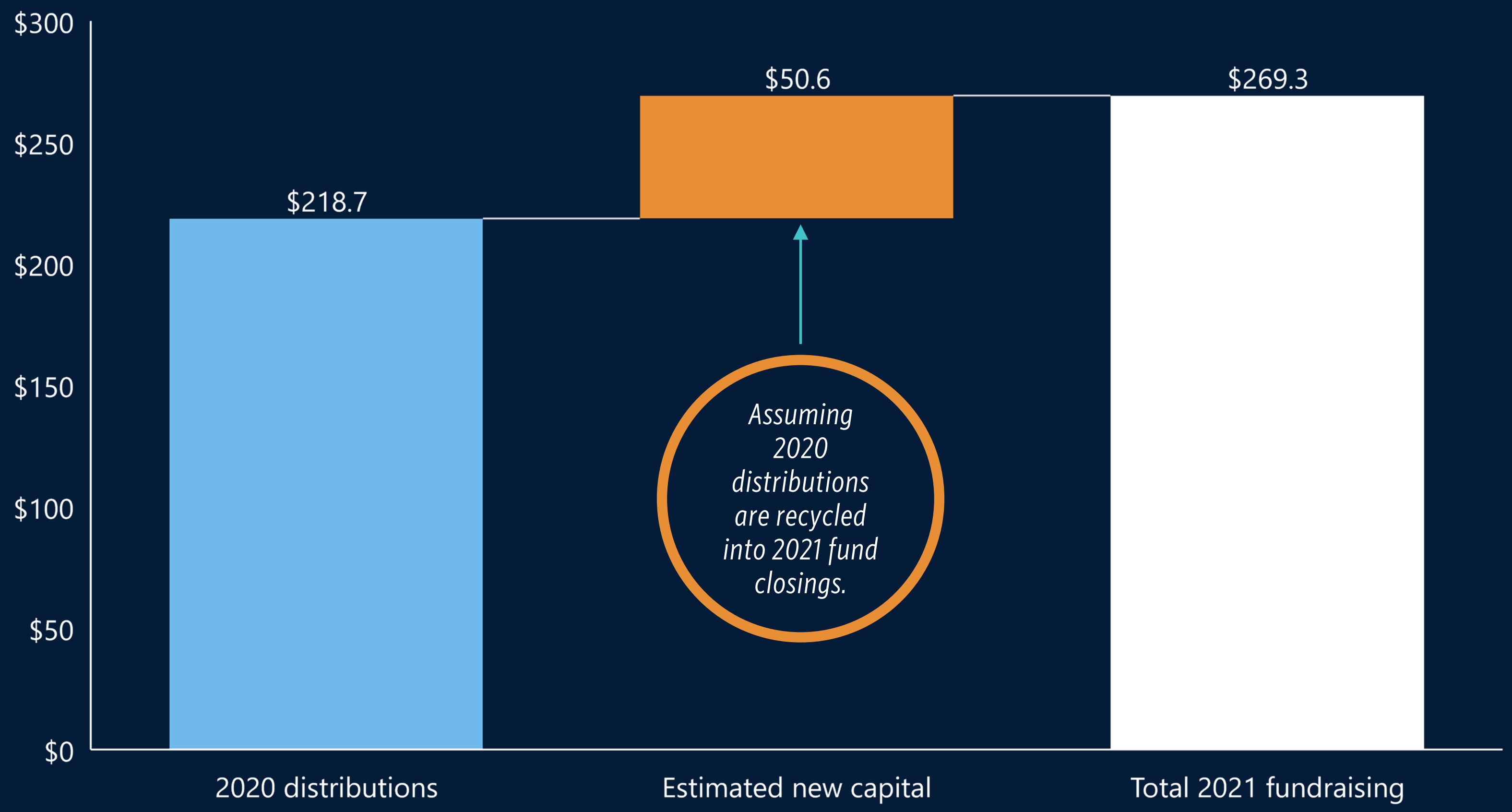

Source: PitchBook

*Note: for illustrative purposes only.*

This basic framework is useful for conceptualizing the proportion of total fundraising by GPs that is sourced from new deployable capital allocated to a strategy, versus recycling of prior distributions. New sources of capital can be existing LPs growing allocations and brand-new LPs launching a private markets program. The results can be a proxy for relative investor interest in growing their allocations to particular asset classes.

## We compare fundraising for the year to the net distributions to LPs of the prior year, providing an estimate of "new capital."

Estimating new deployable capital ($B) in 2021 for buyout funds*



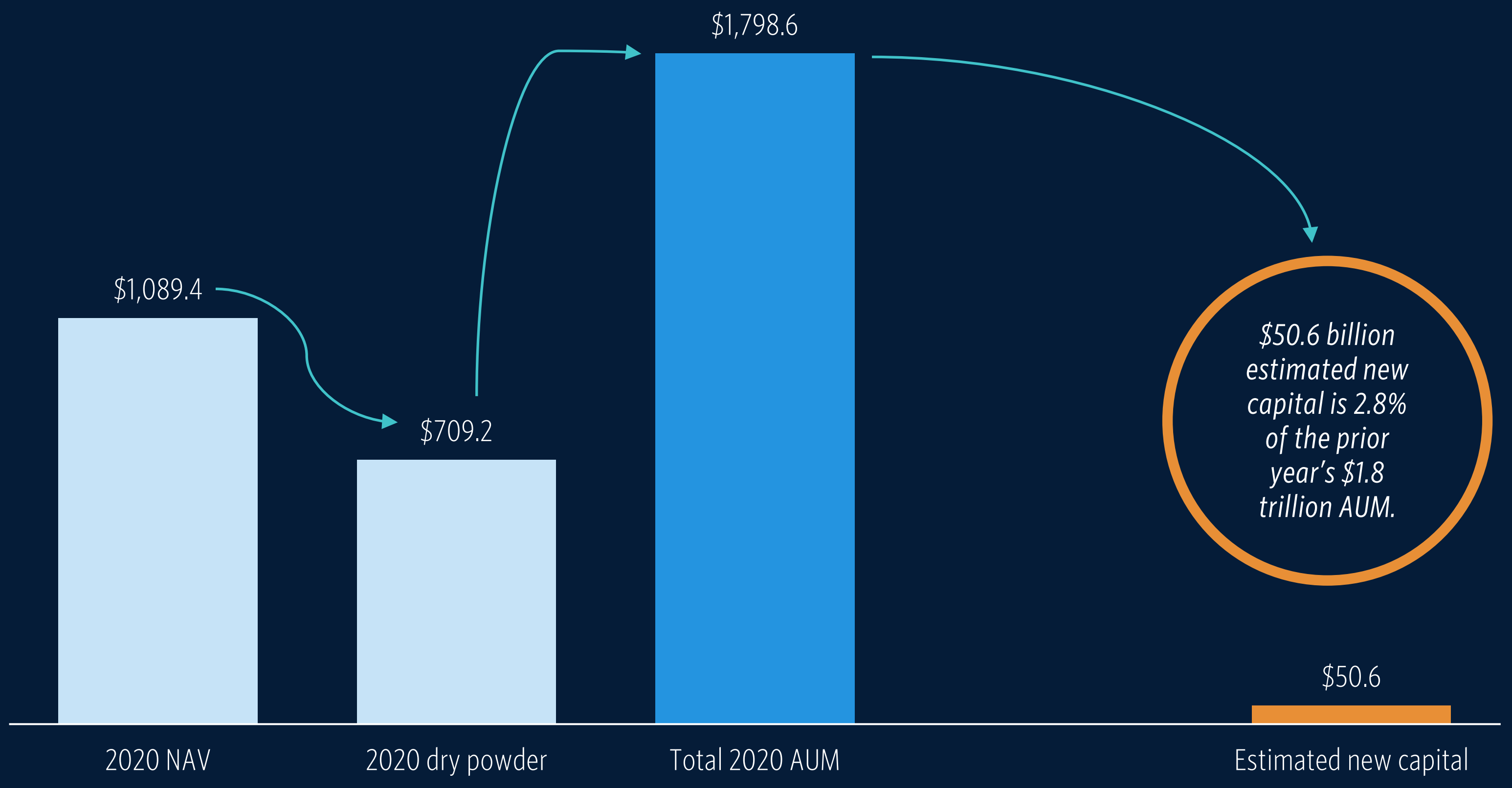

Source: PitchBook | Geography: US

*As of December 21, 2021

As an example, we have estimated distributions received by LPs in buyout funds from 2020, as well as total fundraising in 2021. We consider a rough one-year lag for redeployment of distributions due to the multi-month timeline to reach final close for most new funds.

# Strategies differ in size, so we normalize the estimated new capital by comparing to the prior year's AUM.

Comparing estimated new deployable capital to prior year's AUM ($B)*



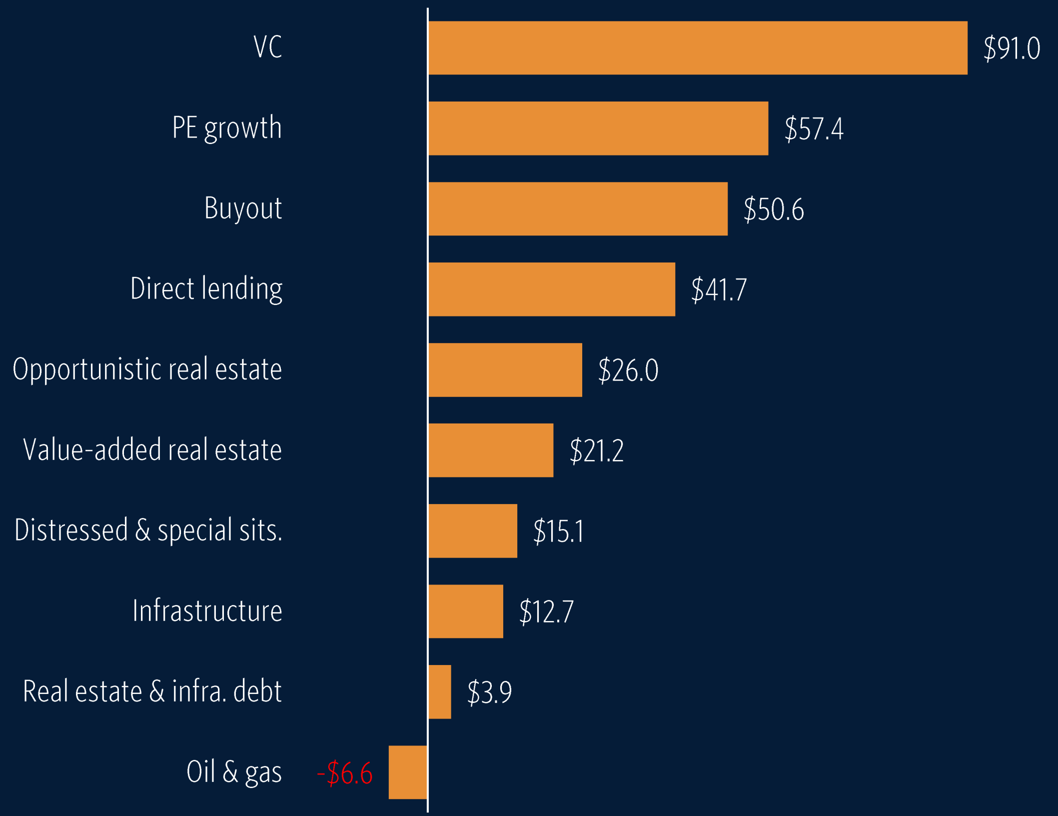

Source: PitchBook | Geography: US

*As of December 21, 2021

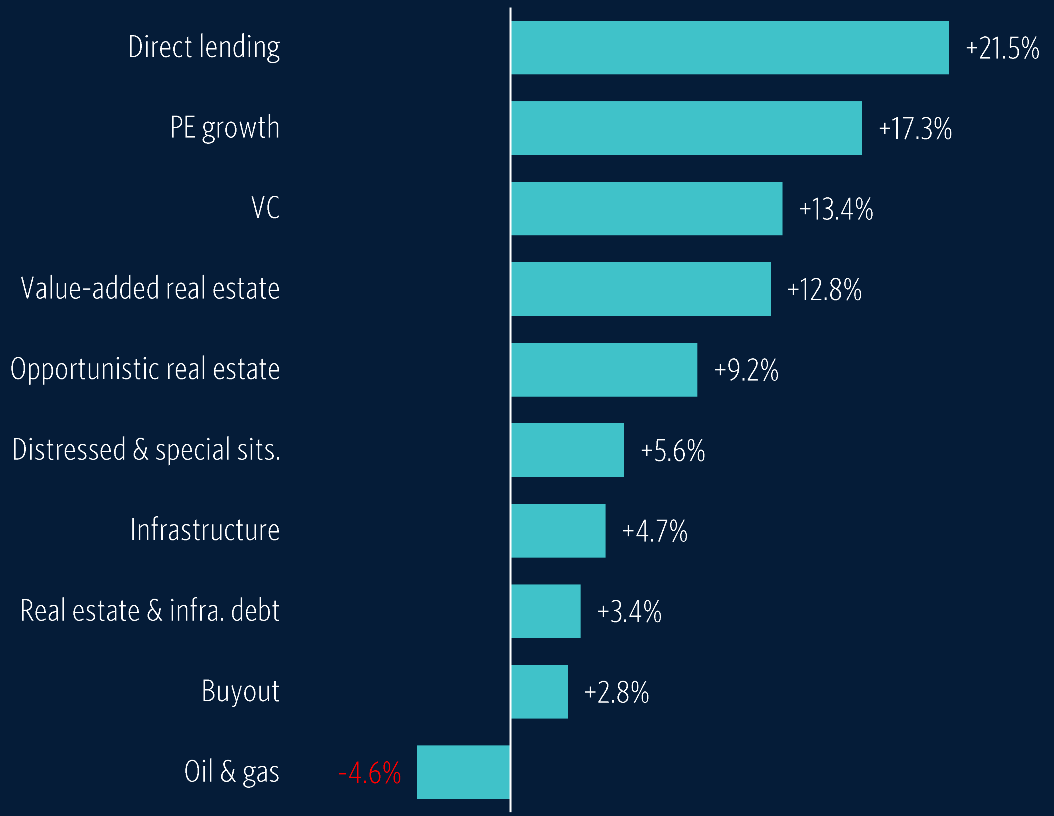
Finally, we compare our estimate for new deployable capital to the previous year's assets under management (dry powder plus net asset value). In our buyout fund example, we find that $50.6 billion in new money represents about 2.8% growth from the prior year's AUM.

## VC saw the highest new capital in 2021, but direct lending funds saw the biggest expansion compared with a smaller AUM base. Oil & gas saw declining net new interest.

Estimated new deployable capital ($B) by fund strategy for 2021*




Estimated 2021 new deployable capital as a share of 2020 AUM*

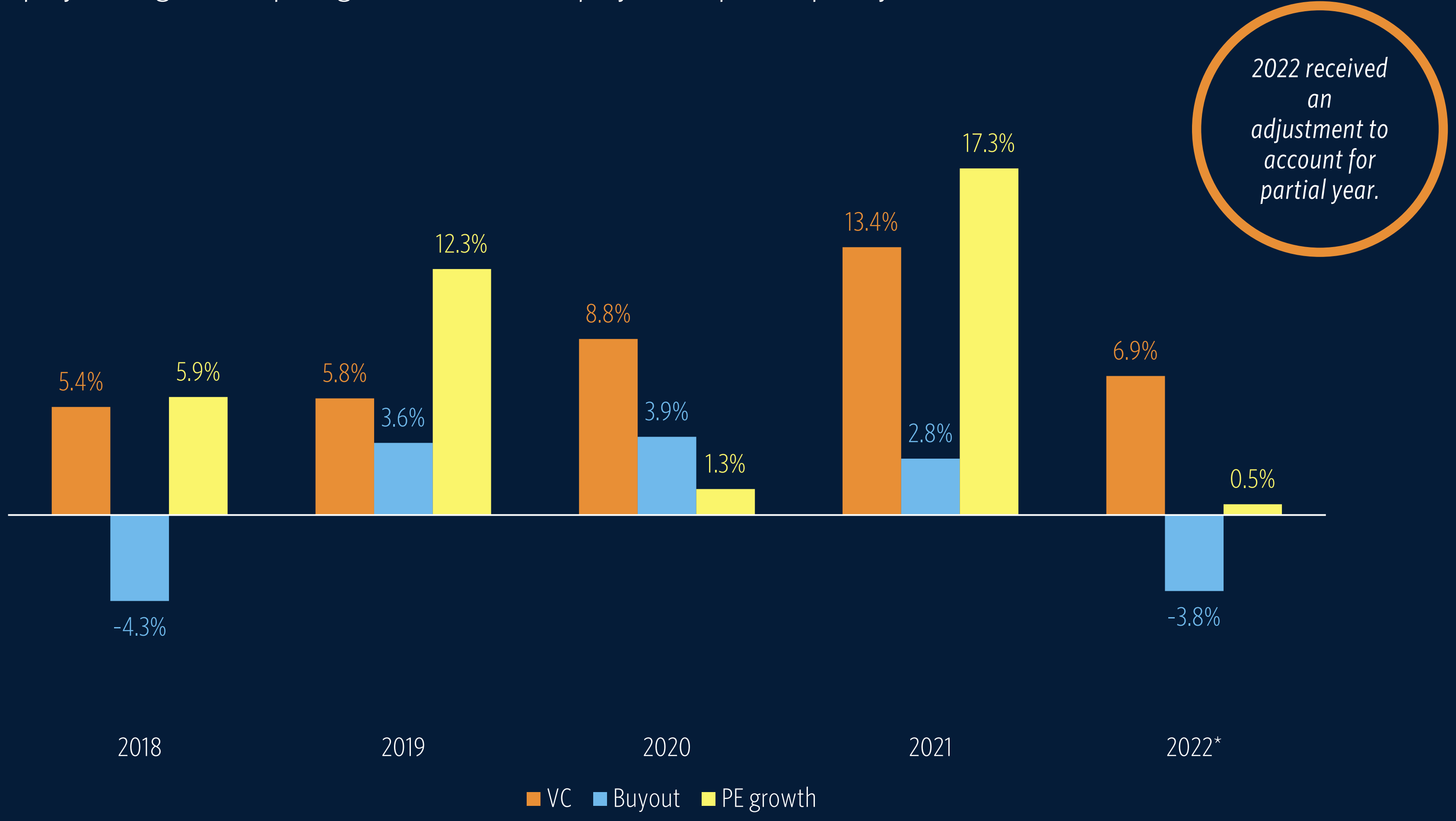



Source: PitchBook | Geography: US

*As of December 31, 2021

# The historical trend reveals that PE growth and VC have seen more new capital than buyout funds, but the pace has fallen in 2022.

Equity strategies: comparing estimated new deployable capital to prior year's AUM




Source: PitchBook | Geography: US

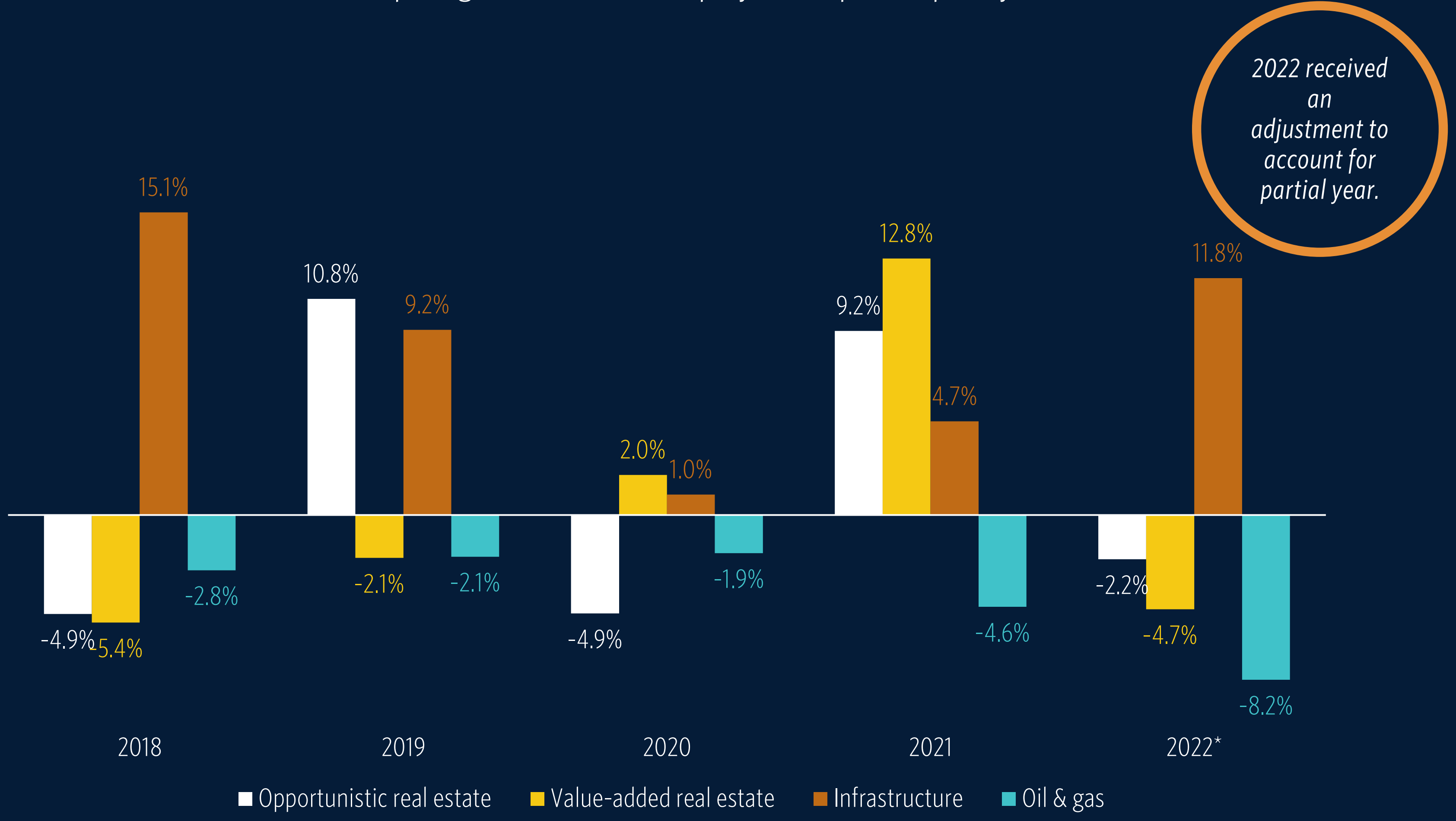
*As of August 31, 2022

**Digging deeper**: VC and PE growth's LP interest is perhaps unsurprising given the recent outperformance those strategies have seen.

The record distributions in 2021 help to explain the fundraising momentum into 2022 as well, though this analysis shows the pace of new capital entering LP commitments has slowed this year, even turning negative for buyout funds.

## Within real assets, infrastructure holds the most relative investor mind share, with oil & gas failing to find net new capital for years.

Real estate and real assets: comparing estimated new deployable capital to prior year's AUM



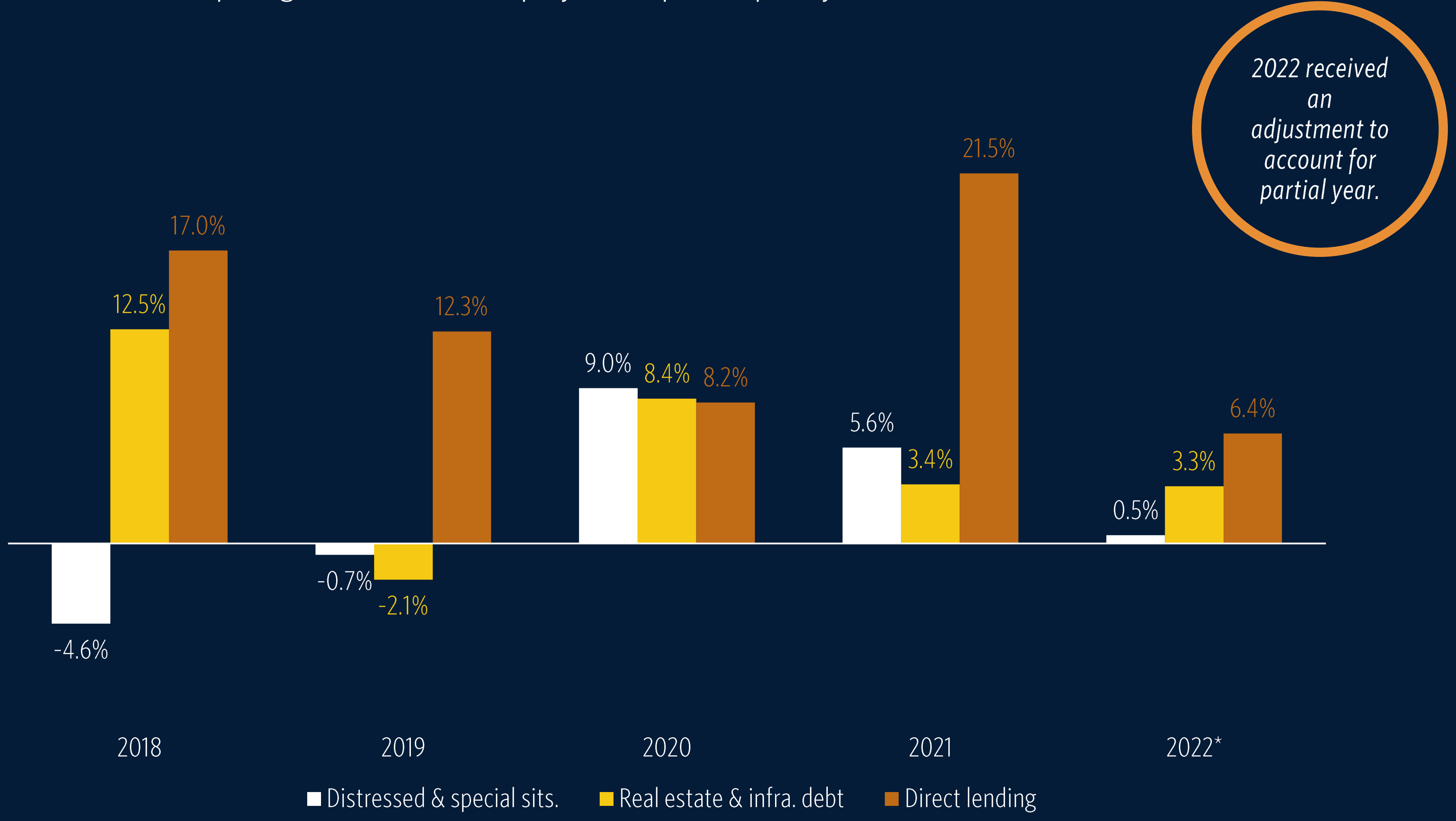

Source: PitchBook | Geography: US

*As of August 31, 2022

**Digging deeper**: Oil & gas as a strategy is trending toward consolidating into infrastructure and other real asset strategies. As LPs and GPs figure out the best way to navigate ESG and Impact investing mandates, finding investor dollars will be a challenge. Underinvestment has, in part, contributed to inflationary headwinds.

## The private debt asset class continues to see growing investor interest, though to varying degrees across sub-stragies.

Private debt: comparing estimated new deployable capital to prior year's AUM




Source: PitchBook | Geography: US

*As of August 31, 2022

**Digging deeper**: It is likely that the pace for distressed fund capital raising will pick up if an economic downturn persists through 2023. Given a complicated fixed income market and inflationary environment, direct lending, real estate debt, and infrastructure debt funds appear well-positioned to continue gathering the incremental LP dollar.

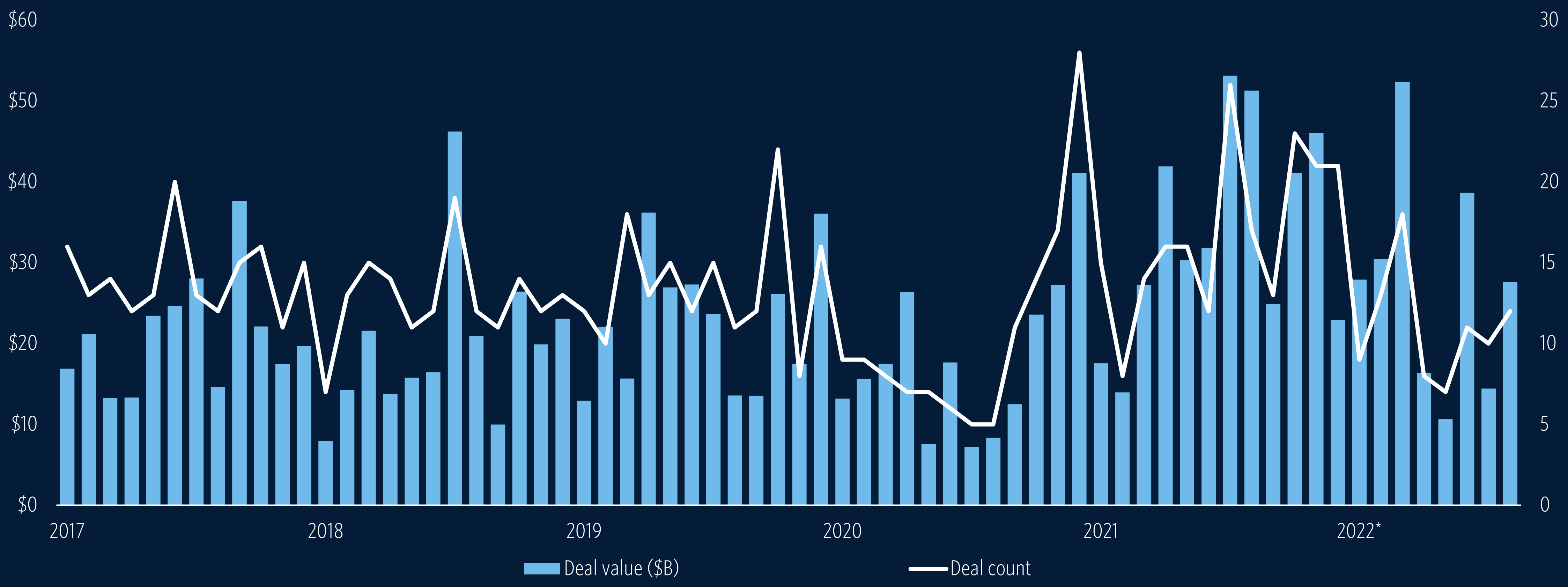
# Equity markets

## Key takeaways

- Dealmaking for mega-deals in buyout, PE growth, and VC markets has fallen considerably from volumes seen in 2021.
- The slower dealmaking environment has translated into a slower pace of unicorn creation in 2022, although unicorns are now worth about $2.3 trillion on paper.
- Using fund net asset values and an analysis of equity ownership, we estimate the market capitalization of PE- and VC-backed companies to be about $3.4 trillion and $3.3 trillion, respectively.
- The exit environment has become hostile, hurting the potential for realized returns for investors in late-stage startups. Public listings for both PE and VC company universes are at historically low levels.
- A resetting of VC valuations seems inevitable as high-flying public comparables have been knocked down several pegs. Pre-money valuations for new deals have come down across the size spectrum to go along with a more investor-friendly dealmaking environment.

# Mega-buyout dealmaking was at a record pace in 2021, but that has slowed after the first quarter of 2022.

Monthly mega buyout deal activity ($500 million+ deal value)

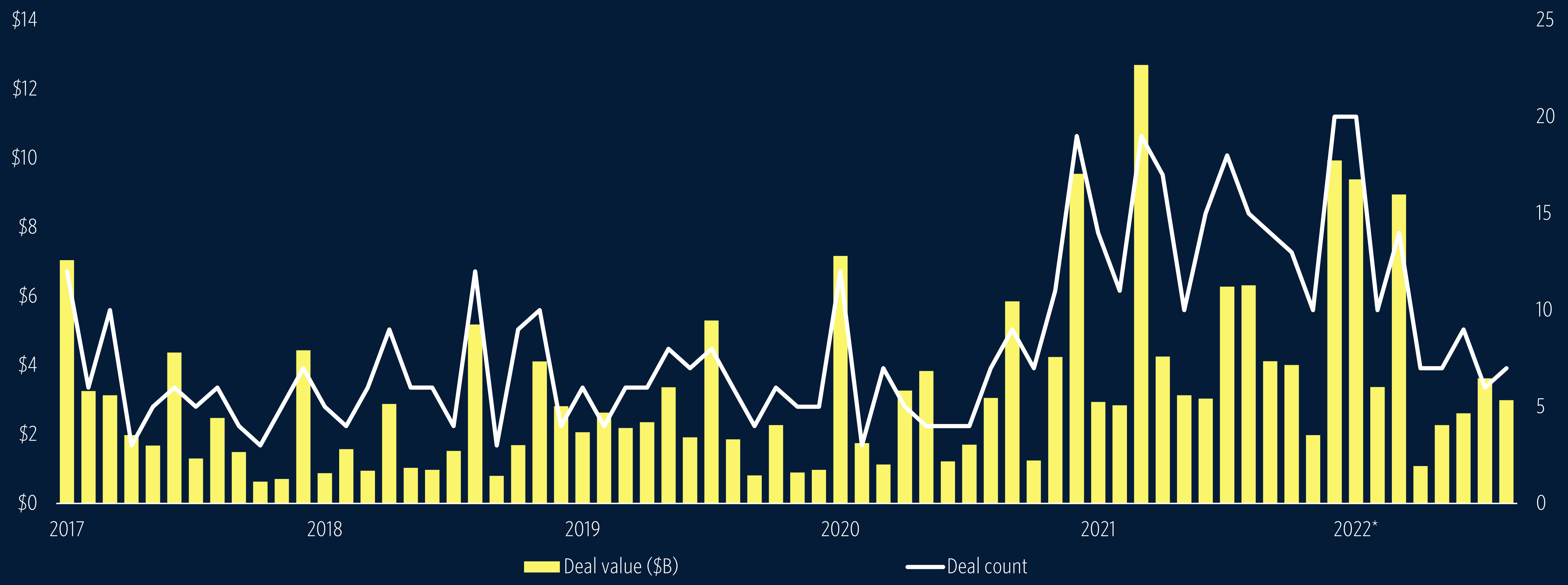



Source: PitchBook | Geography: US

*As of August 31, 2022

# Similarly, large PE growth rounds have fallen considerably this year...

Monthly mega PE growth deal activity ($100 million+ deal value)

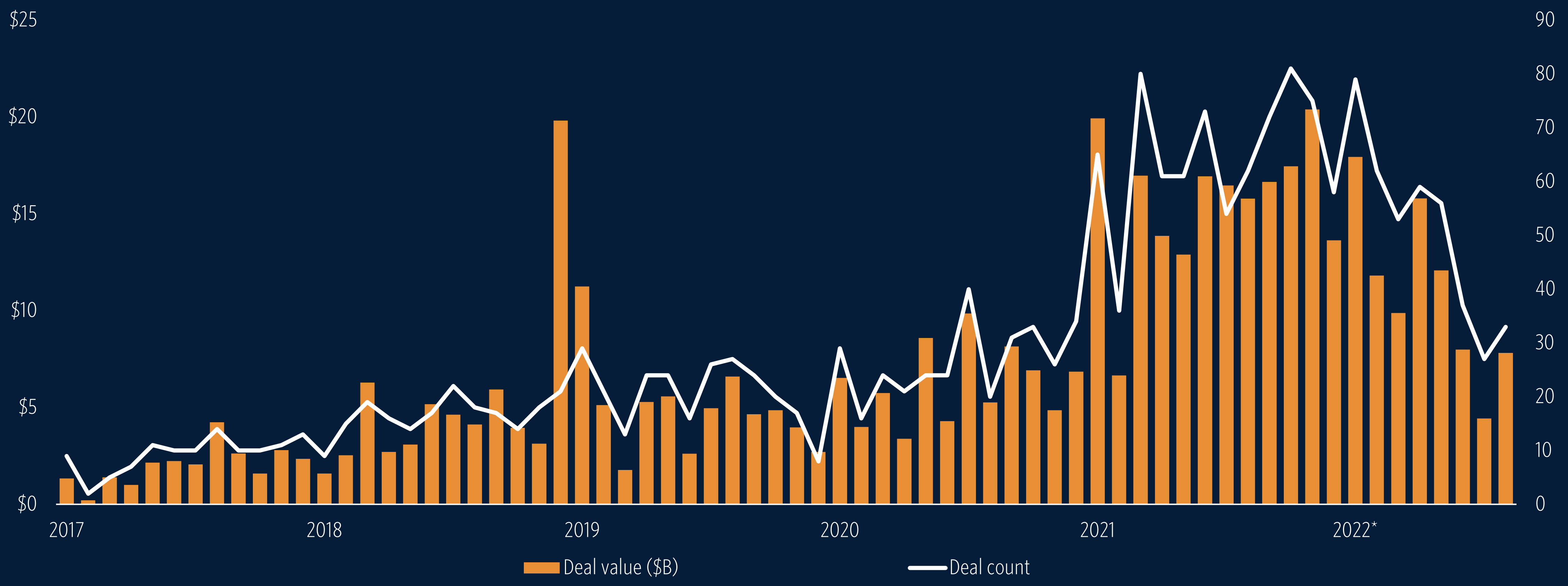



Source: PitchBook | Geography: US

*As of August 31, 2022

# ...as have VC mega-deals, but activity is still up from pre-2021. Without a stabilization in global markets, it will be tough for private equity and venture investors to match last year's pace.

Monthly mega VC deal activity ($100 million+ deal value)

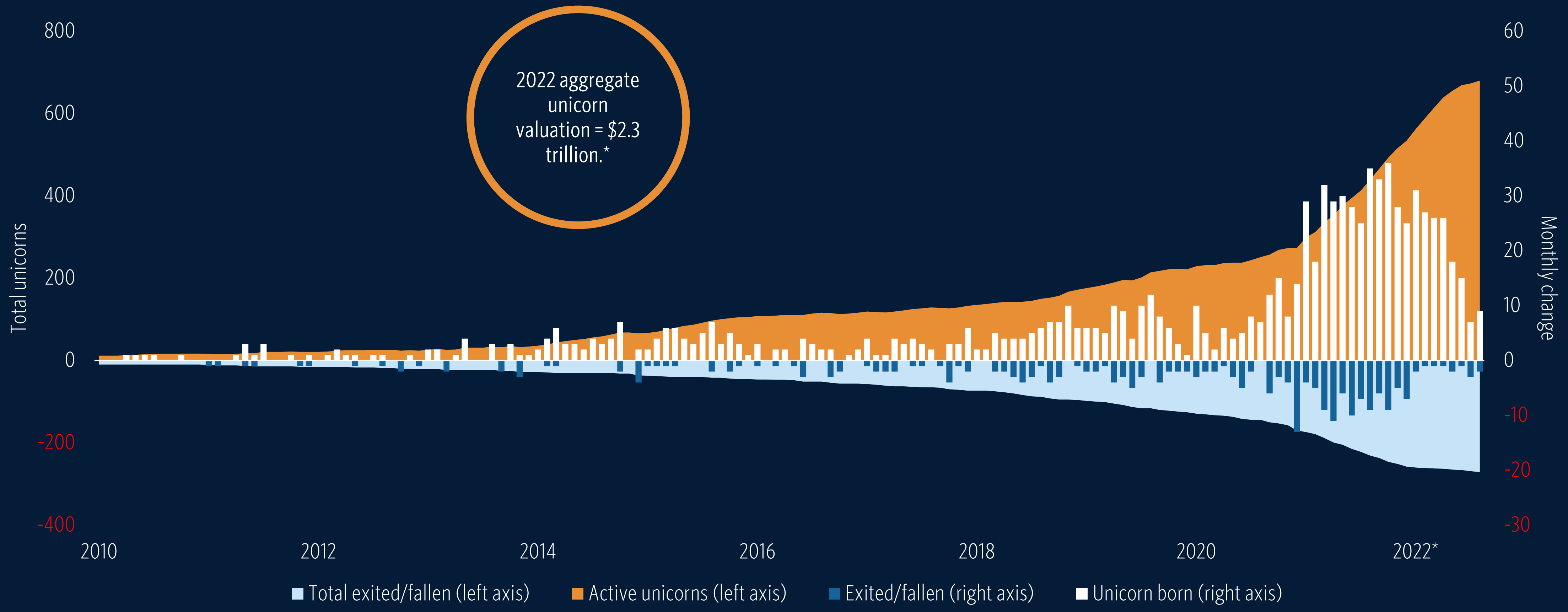



Source: PitchBook | Geography: US

*As of August 31, 2022

# With market headwinds, VC deployment in large startups has fallen, resulting in a much slower pace of unicorn creation in 2022. However, aggregate unicorn valuations now eclipse $2.3 trillion.

Unicorn counts and monthly change




Source: PitchBook | Geography: US

*As of August 31, 2022

# The slowdown in the deal environment has translated to negative short-term trends across most VC sectors and stages...

VC deal activity scorecard*

| | | Deal count | | | | Deal value ($B) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Segment | H1 2022 | % of total | Long-term score | Short-term score | H1 2022 | % of total | Long-term score | Short-term score |
| | Total | 9,614 | 100.0% | 2.55 | -0.28 | $75.48 | 100.0% | 2.43 | -0.56 |
| Sector | Commercial products & services | 1,463 | 15.7% | 2.78 | 0.43 | $10.74 | 15.0% | 3.31 | 0.38 |
| Sector | Consumer goods & services | 1,314 | 14.1% | 1.19 | -0.46 | $6.80 | 9.5% | 1.48 | -0.57 |
| Sector | Energy | 157 | 1.7% | 0.62 | -0.20 | $1.60 | 2.2% | 1.52 | -0.16 |
| Sector | Healthcare devices & supplies | 424 | 4.5% | 0.03 | -0.86 | $3.04 | 4.3% | 0.84 | -0.56 |
| Sector | Healthcare services & systems | 813 | 8.7% | 2.54 | -0.42 | $6.18 | 8.6% | 1.80 | -1.20 |
| Sector | Information technology hardware | 276 | 3.0% | 1.45 | -0.40 | $2.83 | 4.0% | 1.96 | 0.40 |
| Sector | Media | 236 | 2.5% | 0.59 | 0.74 | $1.22 | 1.7% | 2.46 | 0.83 |
| Sector | Pharma & biotech | 617 | 6.6% | 1.00 | -1.75 | $7.86 | 11.0% | 0.93 | -1.81 |
| Sector | Software | 3,907 | 41.9% | 2.96 | -0.04 | $30.15 | 42.1% | 2.60 | -0.43 |
| Sector | Transportation | 121 | 1.3% | 1.54 | -0.43 | $1.17 | 1.6% | 1.30 | -0.21 |
| Type | Angel & seed | 3,794 | 39.5% | 0.82 | -0.52 | $10.04 | 13.3% | 3.17 | -0.12 |
| Type | Early-stage VC | 2,905 | 30.2% | 2.78 | 0.02 | $25.07 | 33.2% | 2.09 | -0.59 |
| Type | Late-stage VC | 3,107 | 32.3% | 3.78 | 0.25 | $40.37 | 53.5% | 2.41 | -0.71 |

Source: PitchBook | Geography: US

*As of June 30, 2022 | *Note: short-term trends look at the trend from the previous four quarters while long-term compares against the trend going back to 2003.*

# …and a similar impact is being felt in PE dealmaking. Deal value compared with the short-term trend for the energy sector is the one bright spot.

PE deal activity scorecard*

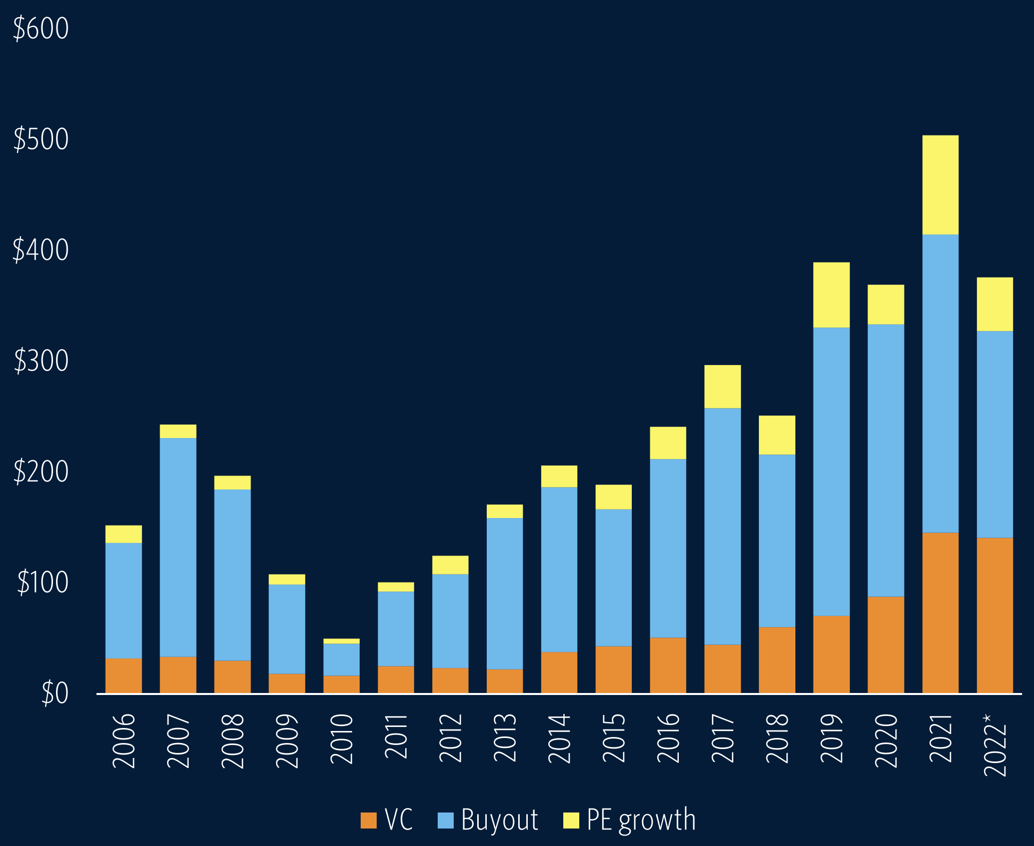
| | | Deal count | | | | Deal value ($B) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Segment | H1 2022 | % of total | Long-term score | Short-term score | H1 2022 | % of total | Long-term score | Short-term score |
| | Total | 4,536 | 100.0% | 2.37 | -0.54 | $359.56 | 100.0% | 1.42 | -0.88 |
| Sector | Business products & services | 1,674 | 37.3% | 2.37 | -0.49 | $124.92 | 35.1% | 1.58 | -0.74 |
| Sector | Consumer products & services | 766 | 17.1% | 2.64 | -0.06 | $51.64 | 14.5% | 0.87 | -1.03 |
| Sector | Energy | 125 | 2.8% | -1.37 | -0.35 | $20.67 | 5.8% | -0.20 | 0.36 |
| Sector | Financial services | 403 | 9.0% | 3.18 | -0.24 | $34.69 | 9.8% | 1.29 | -0.89 |
| Sector | Healthcare | 666 | 14.8% | 1.55 | -1.27 | $48.77 | 13.7% | 0.70 | -1.16 |
| Sector | Information technology | 784 | 17.5% | 2.06 | -0.72 | $66.49 | 18.7% | 1.76 | -0.59 |
| Sector | Materials & resources | 71 | 1.6% | -1.38 | -2.30 | $8.24 | 2.3% | -0.44 | -1.83 |
| Type | Buyout (all) | 3,582 | 79.0% | 1.95 | -0.82 | $304.60 | 84.7% | 1.04 | -1.04 |
| Type | Buyout (add-on) | 2,796 | 61.6% | 2.78 | -0.44 | $204.63 | 56.9% | 2.06 | -0.52 |
| Type | PE growth | 908 | 20.0% | 3.52 | 0.30 | $50.82 | 14.1% | 2.93 | -0.15 |

Source: PitchBook | Geography: US

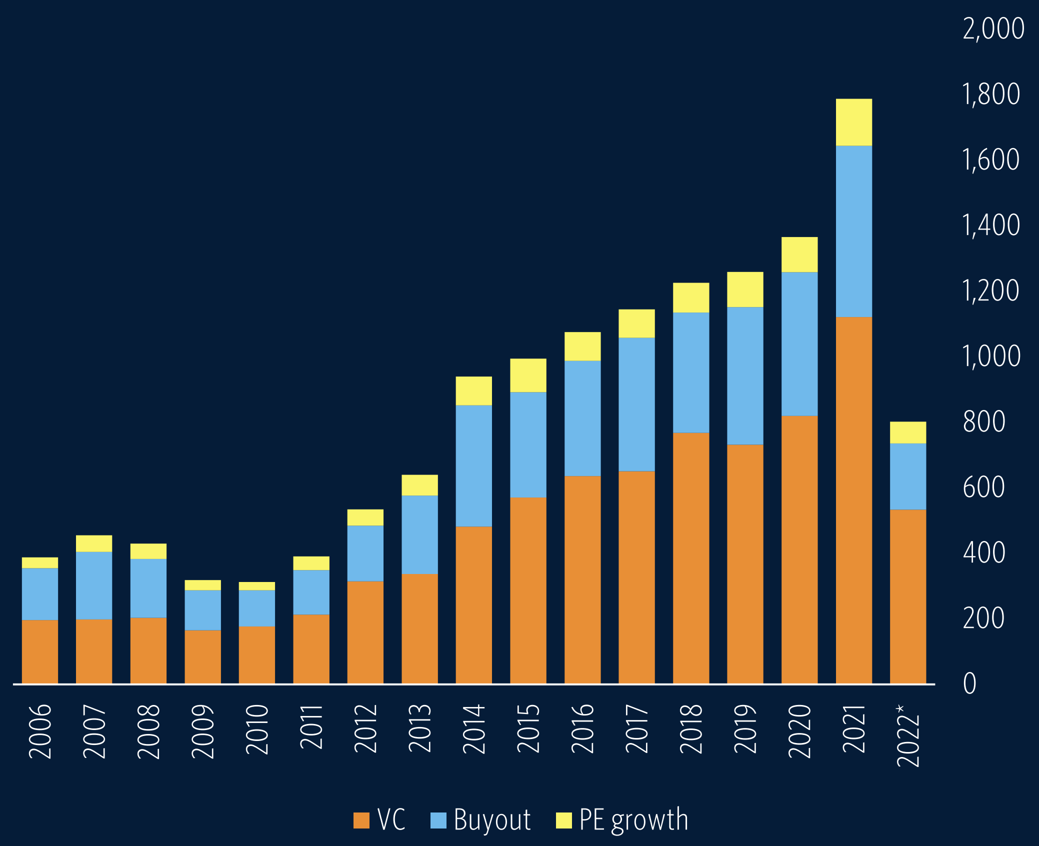
*As of June 30, 2022

## The pandemic barely dented fundraising momentum across PE and VC funds. The pace has kept up in 2022 so far. Much of these commitments come from recycling 2021's record distributions...

Capital raised ($B) for select strategies




Funds closed by select strategies

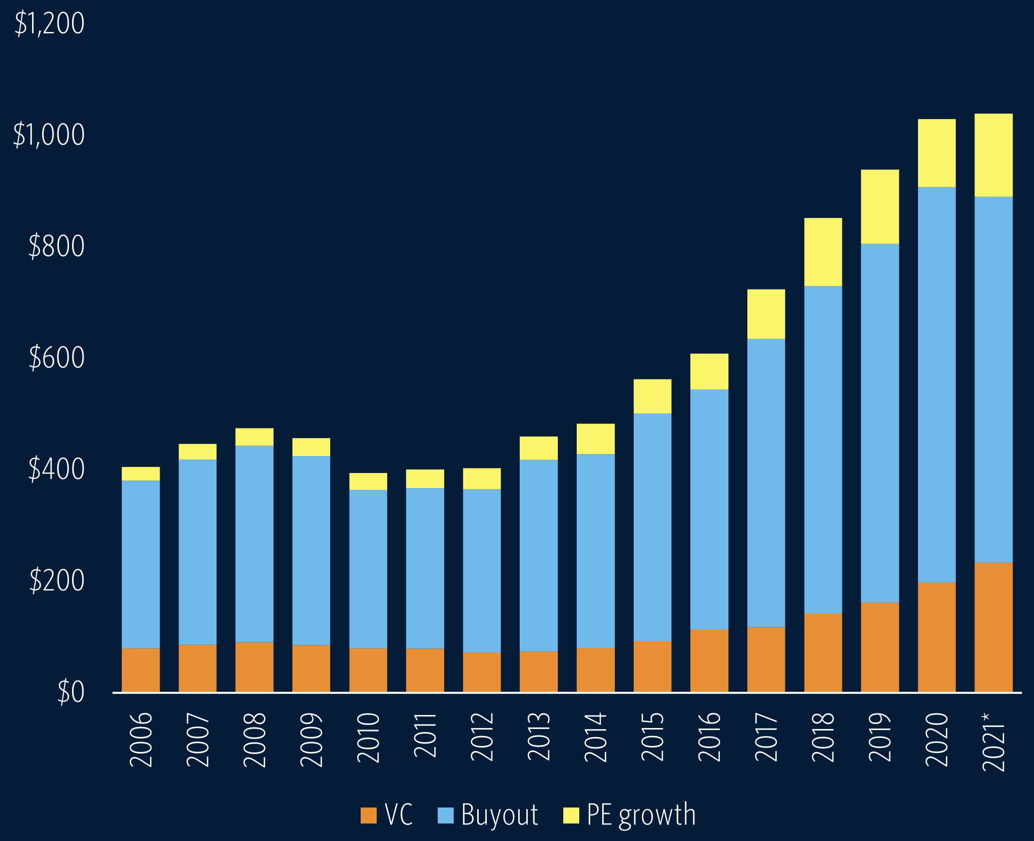



Source: PitchBook | Geography: US

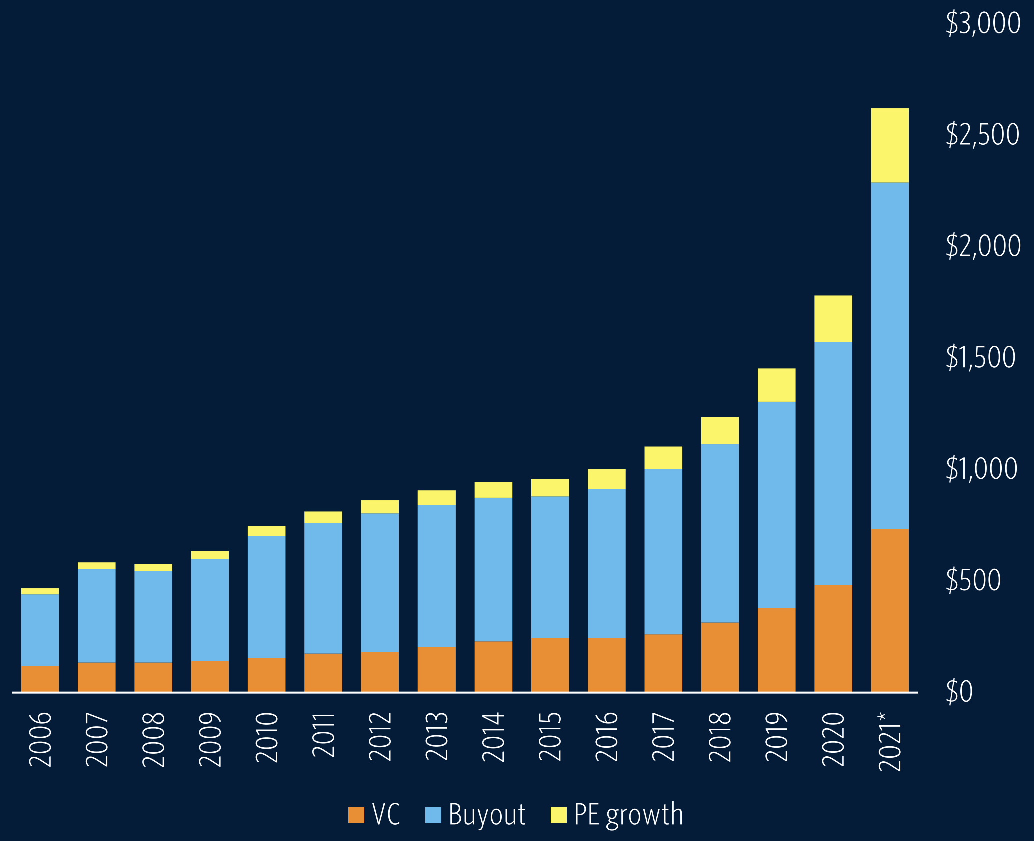
*As of August 31, 2022

# ...and those new fund closings will add to the record dry powder levels estimated at the start of 2022. Less certain are fund net asset values. LPs should be asking if values reported will be realized.

Fund dry powder ($B) by strategy




Fund NAV ($B) by strategy

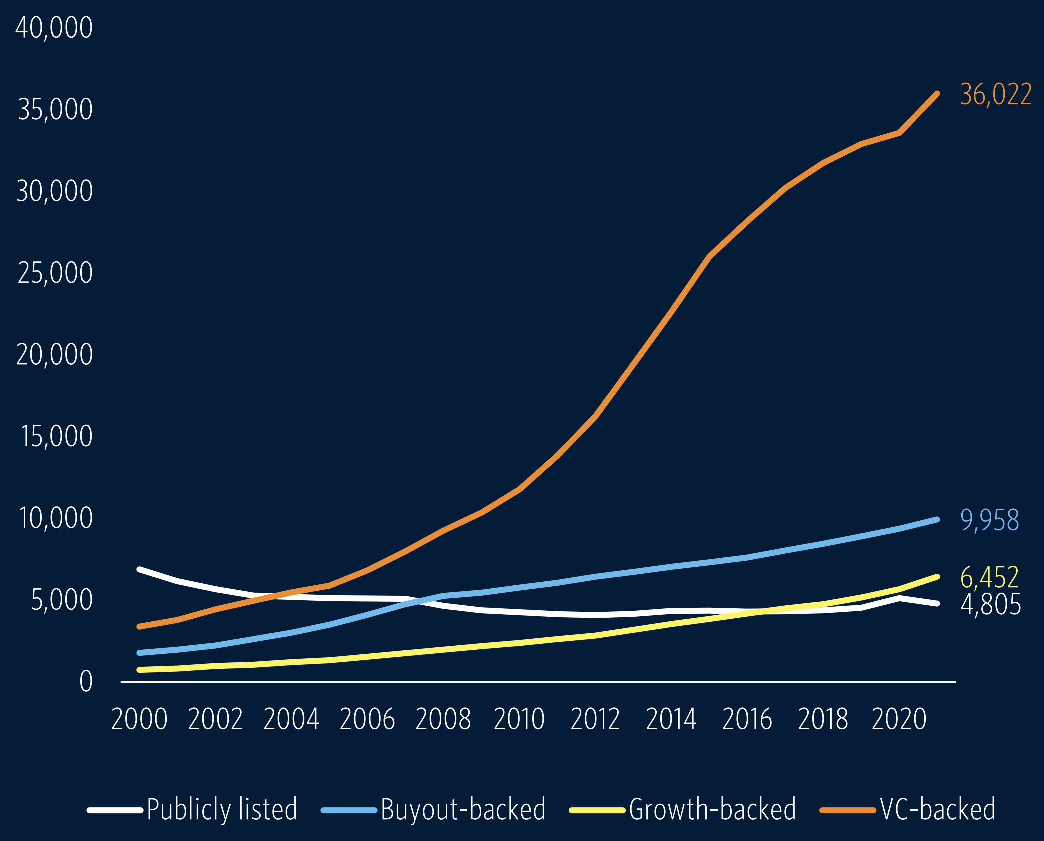



Source: PitchBook | Geography: US

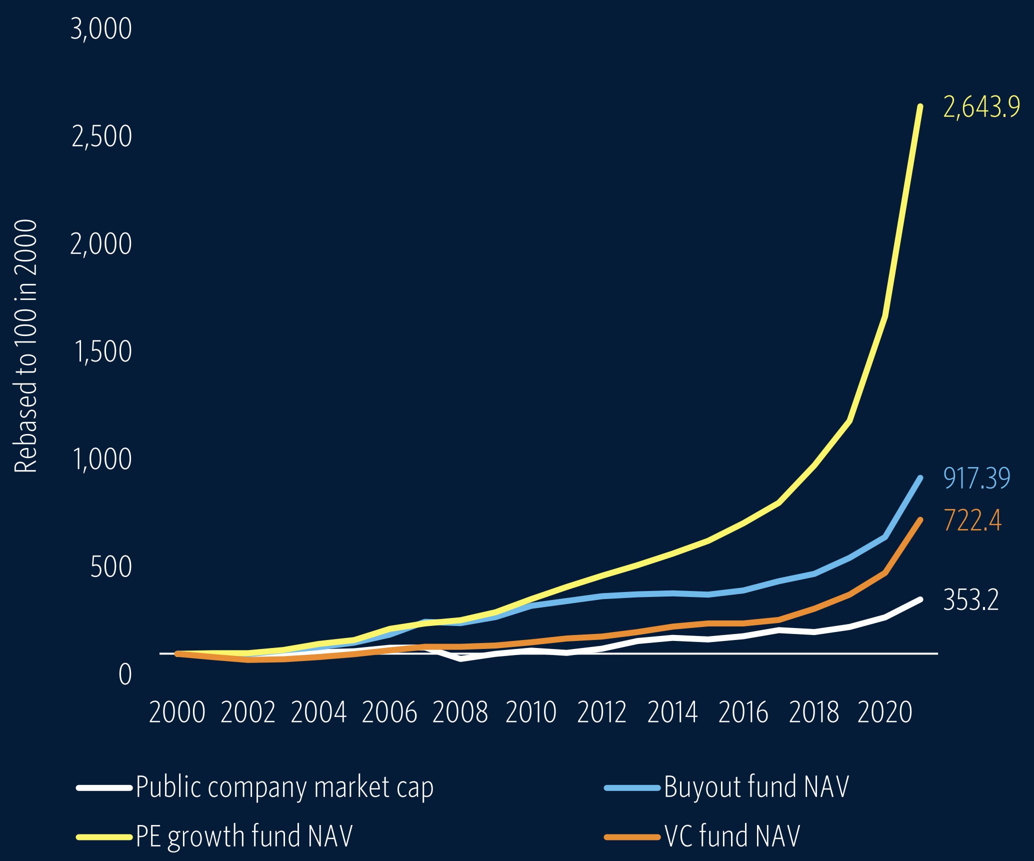
*As of December 31, 2021

# The growth of private markets is well documented, evidenced by expanding PE-backed company counts and fund NAV. A question remains, though: What's the total value of backed companies?

Private-backed companies versus domestic firms publicly listed on NYSE and Nasdaq*




Growth of fund NAV versus US public equity market cap (rebased to 100 in 2000)*

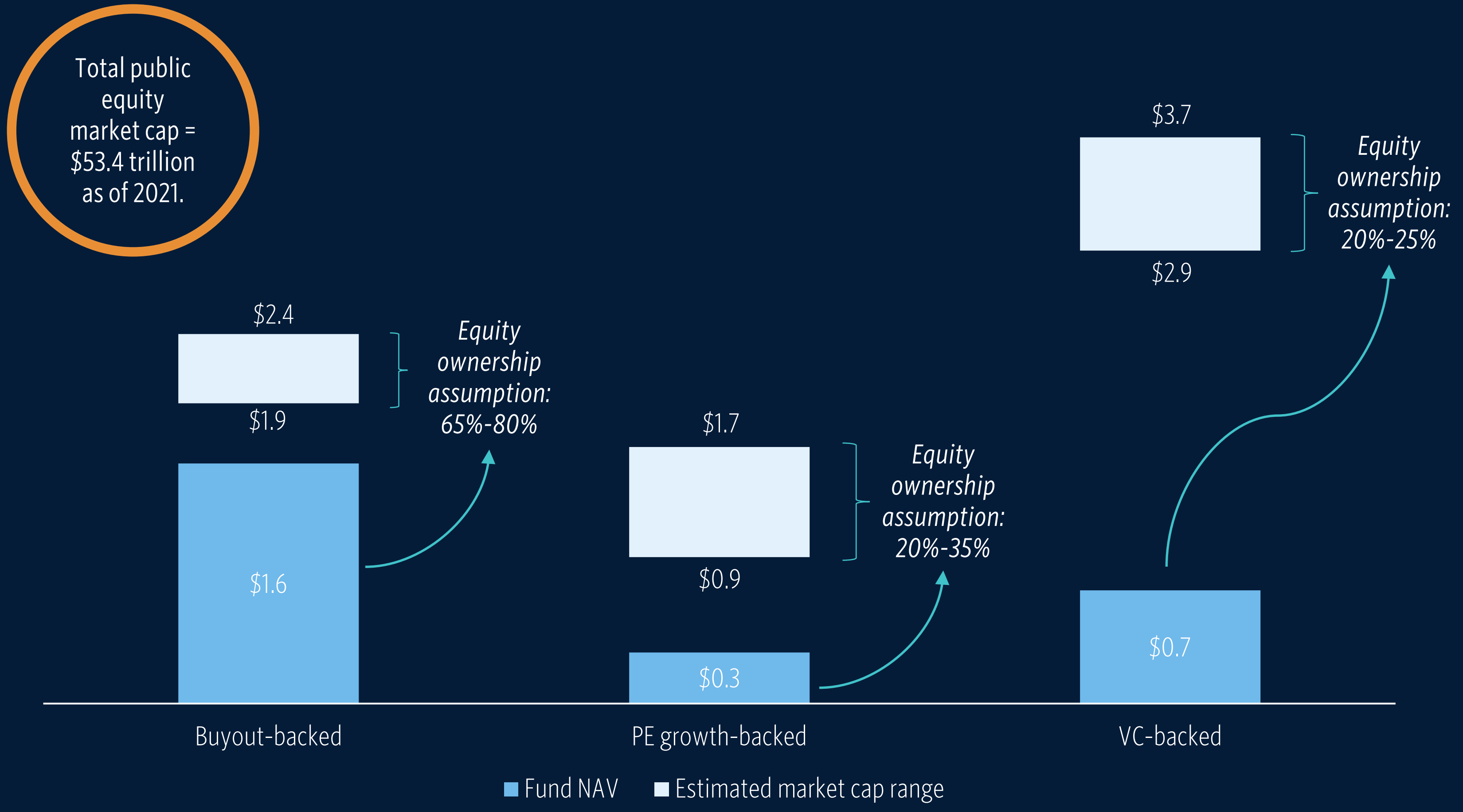



Sources: World Bank, Statista, Siblis Research, PitchBook | Geography: US

*As of December 31, 2021

# To answer that question, we look at fund NAVs and apply an estimate of the equity ownership that the NAV figures represent by strategy.

Estimating the market cap ($T) of PE- and VC-backed companies*




Source: PitchBook | Geography: US

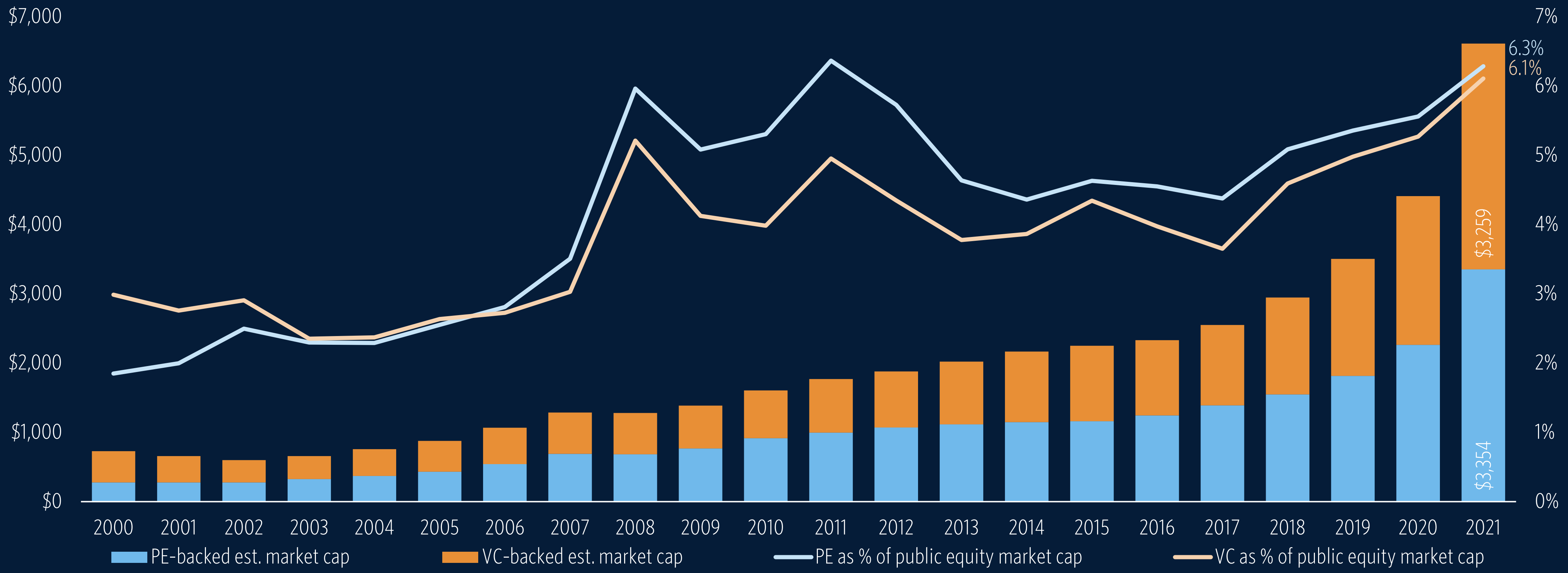
*As of December 31, 2021

Fund investors are typically only a piece of their portfolio companies' ownership structures. There can be employee/founder equity, the GP's balance sheet investment, co-investments, angel/seed investors, and nontraditional investors, among others. Approximations for these "other" equity holders are netted to estimate the equity ownership held by fund LPs, which is theoretically what the fund net asset value represents.

The analysis presented is crude and ignores the fact that some private fund net asset value is held in recent public listings. However, we have sanity checked our results looking at deal flow, hold times, ownership data, and known private company valuations.

## Using the midpoint of our equity ownership estimates, we can track PE- and VC-backed market cap over time, comparing them to public equity markets. VC is nearing parity with PE in size.

PE- (buyout plus PE growth) and VC-backed estimated market cap ($B) as a percentage of public equity market cap




Sources: World Bank, Statista, Siblis Research, PitchBook | Geography: US

*As of December 31, 2021

# Despite growing private company valuations, the exit market has taken a turn for the worse through the first half of 2022. VC has seen a sharp pullback from the near-term trend...

VC exit activity scorecard*

| | | Exit count | | | | Exit value ($B) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Segment | H1 2022 | % of total | Long-term score | Short-term score | H1 2022 | % of total | Long-term score | Short-term score |
| | Total | 811 | 100.0% | 0.66 | -1.79 | $28.45 | 100.0% | -1.05 | -1.82 |
| Sector | Commercial products & services | 133 | 16.6% | 0.58 | -1.19 | $3.62 | 13.7% | -0.42 | -0.90 |
| Sector | Consumer goods & services | 85 | 10.6% | 1.73 | -0.39 | $1.39 | 5.3% | -1.64 | -1.11 |
| Sector | Energy | 11 | 1.4% | -0.03 | -0.39 | $0.50 | 1.9% | -0.21 | -0.57 |
| Sector | Healthcare devices & supplies | 28 | 3.5% | -1.18 | -1.14 | $1.50 | 5.7% | -1.51 | -1.23 |
| Sector | Healthcare services & systems | 60 | 7.5% | 1.07 | -0.79 | $0.60 | 2.3% | -1.61 | -1.60 |
| Sector | Information technology hardware | 26 | 3.2% | 0.35 | -1.14 | $1.25 | 4.7% | 0.02 | -1.48 |
| Sector | Media | 20 | 2.5% | -0.64 | -0.16 | $0.94 | 3.6% | 0.62 | -0.16 |
| Sector | Pharma & biotech | 50 | 6.2% | -1.18 | -1.55 | $5.28 | 20.0% | -1.83 | -1.53 |
| Sector | Software | 379 | 47.3% | 1.31 | -1.57 | $10.93 | 41.3% | -0.67 | -1.64 |
| Sector | Transportation | 9 | 1.1% | 0.45 | -0.46 | $0.46 | 1.7% | -0.90 | -0.71 |
| Type | Acquisition | 603 | 72.4% | 1.10 | -1.40 | $17.50 | 61.5% | -0.62 | -1.26 |
| Type | Buyout | 172 | 20.6% | 1.56 | -0.99 | $1.20 | 4.2% | -2.19 | -1.61 |
| Type | Public listing | 58 | 7.0% | -0.45 | -1.58 | $9.74 | 34.2% | -1.01 | -1.41 |

Source: PitchBook | Geography: US

*As of June 30, 2022

# ...and PE has seen an even more pronounced downturn for exit activity. Exits through the public markets for both VC- and PE-backed companies have become nearly impossible...

PE exit activity scorecard*

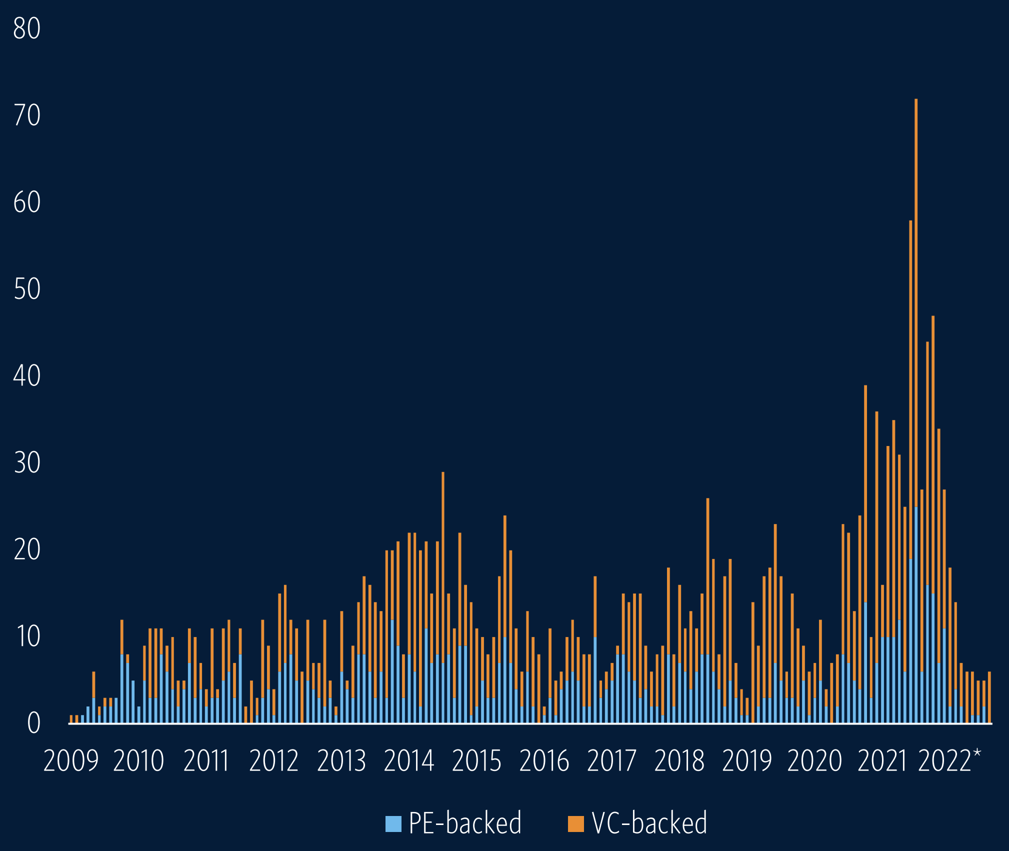
| | | Exit count | | | | Exit value ($B) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Segment | H1 2022 | % of total | Long-term score | Short-term score | H1 2022 | % of total | Long-term score | Short-term score |
| | Total | 646 | 100.0% | -1.58 | -1.96 | $152.47 | 100.0% | -1.33 | -1.89 |
| Sector | Business products & services | 243 | 38.0% | -0.94 | -1.59 | $48.42 | 32.1% | -0.85 | -1.58 |
| Sector | Consumer products & services | 92 | 14.4% | -2.63 | -2.69 | $18.28 | 12.1% | -2.24 | -2.32 |
| Sector | Energy | 38 | 5.9% | -1.73 | -0.62 | $13.25 | 8.8% | -0.77 | -0.28 |
| Sector | Financial services | 44 | 6.9% | -1.17 | -0.68 | $15.28 | 10.1% | 0.08 | -0.14 |
| Sector | Healthcare | 85 | 13.3% | -0.99 | -1.84 | $29.63 | 19.7% | 0.02 | -1.23 |
| Sector | Information technology | 117 | 18.3% | -0.55 | -1.32 | $20.77 | 13.8% | -1.81 | -1.94 |
| Sector | Materials & resources | 21 | 3.3% | -1.49 | -1.03 | $5.15 | 3.4% | -1.03 | -0.58 |
| Type | Acquisition | 287 | 44.9% | -2.34 | -1.84 | $78.17 | 51.8% | -0.63 | -1.09 |
| Type | Buyout | 340 | 53.2% | -0.60 | -1.40 | $69.61 | 46.2% | -0.95 | -1.41 |
| Type | Public listing | 12 | 1.9% | -1.59 | -2.75 | $2.99 | 2.0% | -2.05 | -2.54 |

Source: PitchBook | Geography: US

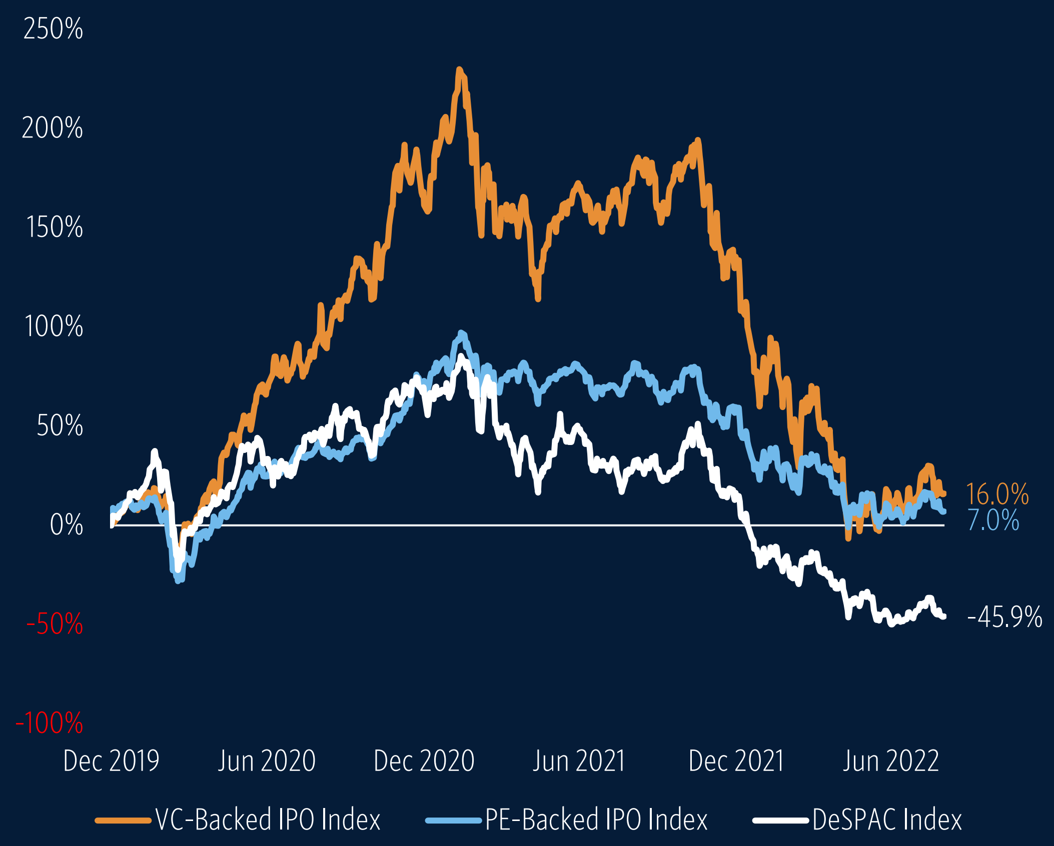
*As of June 30, 2022

# …making 2022 one of the worst years on record for both PE- and VC-backed public listings, in terms of both new companies listing on public exchanges and recent IPO performance.

PE- and VC-backed public listings




PitchBook IPO and DeSPAC Indexes total return since beginning of 2020*

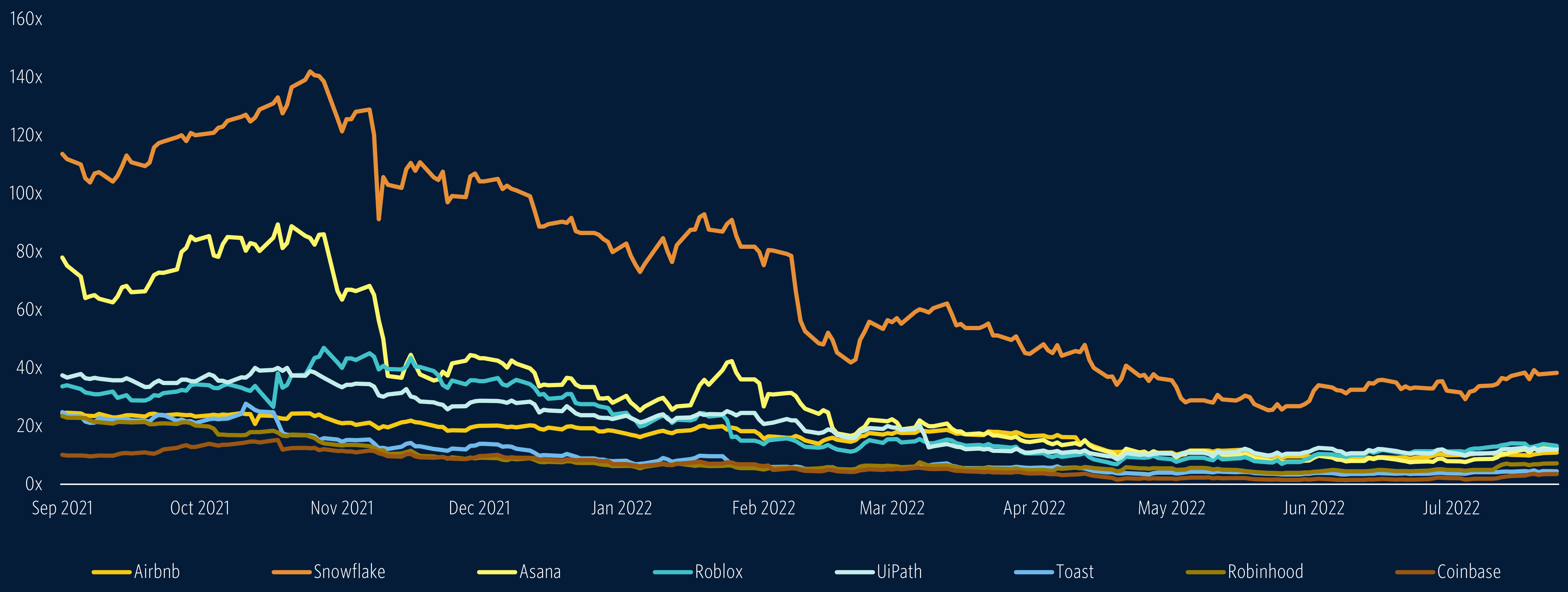



Sources: Morningstar, PitchBook | Geography: US

*As of August 31, 2022

# The equity market sell-off has led to a drastic decline in valuation multiples for VC-backed companies that recently exited via IPO.

Price-to-sales multiples for select recent VC-backed listings*

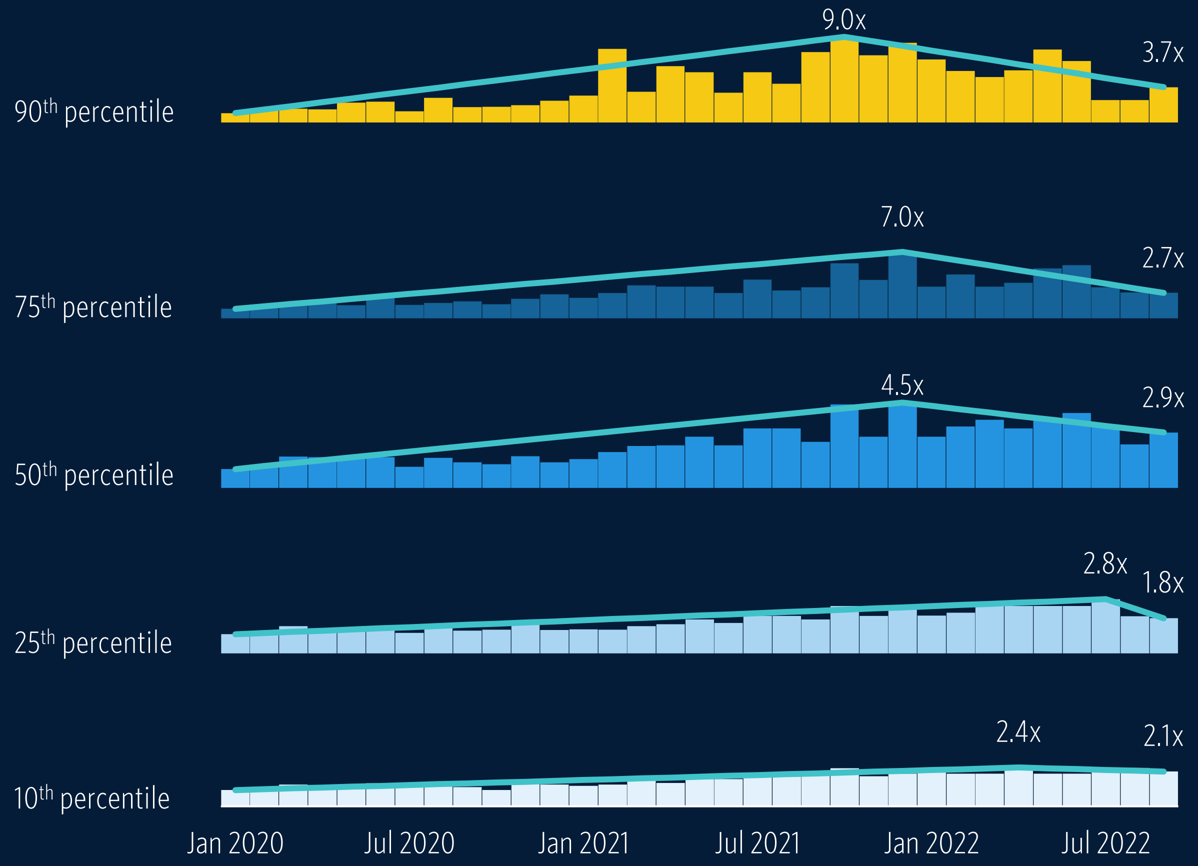



Sources: PitchBook, Morningstar | Geography: US

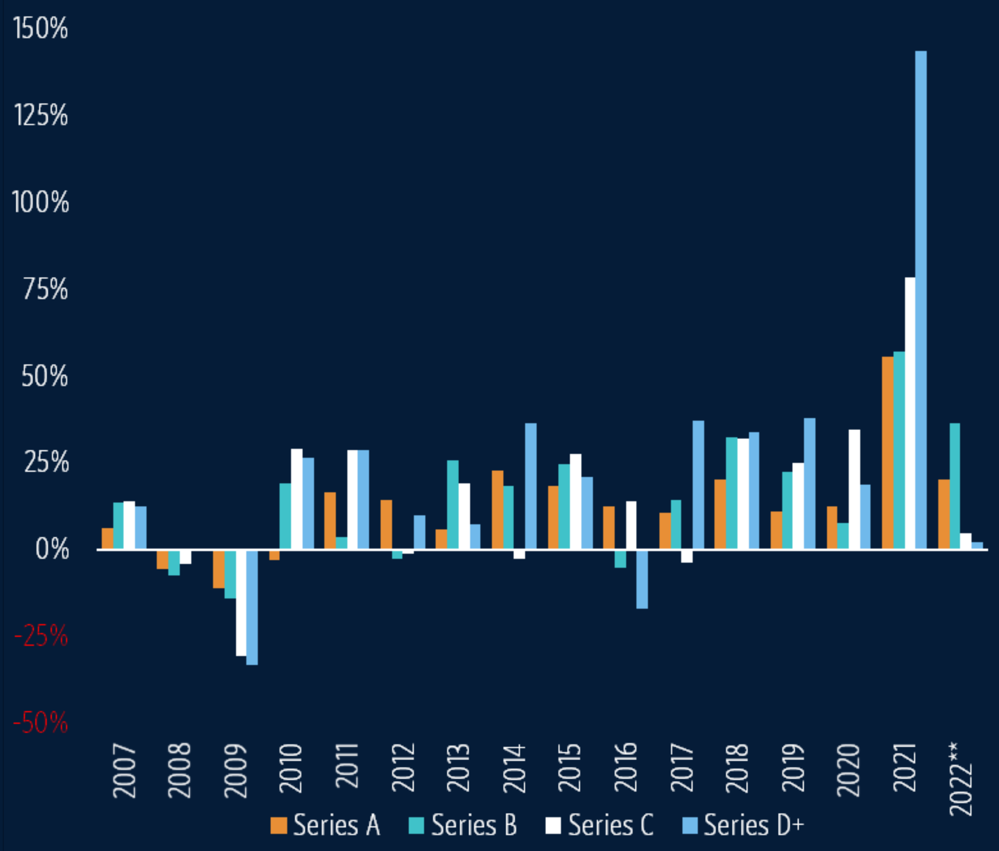
*As of August 15, 2022

# While down rounds are still more anecdotal than pervasive, the year-over-year change in pre-money valuations of new deals has come down considerably from 2021 and early 2022.

Change in pre-money valuations for new software VC deals monthly by valuation percentile*




YoY change in median pre-money valuations by series

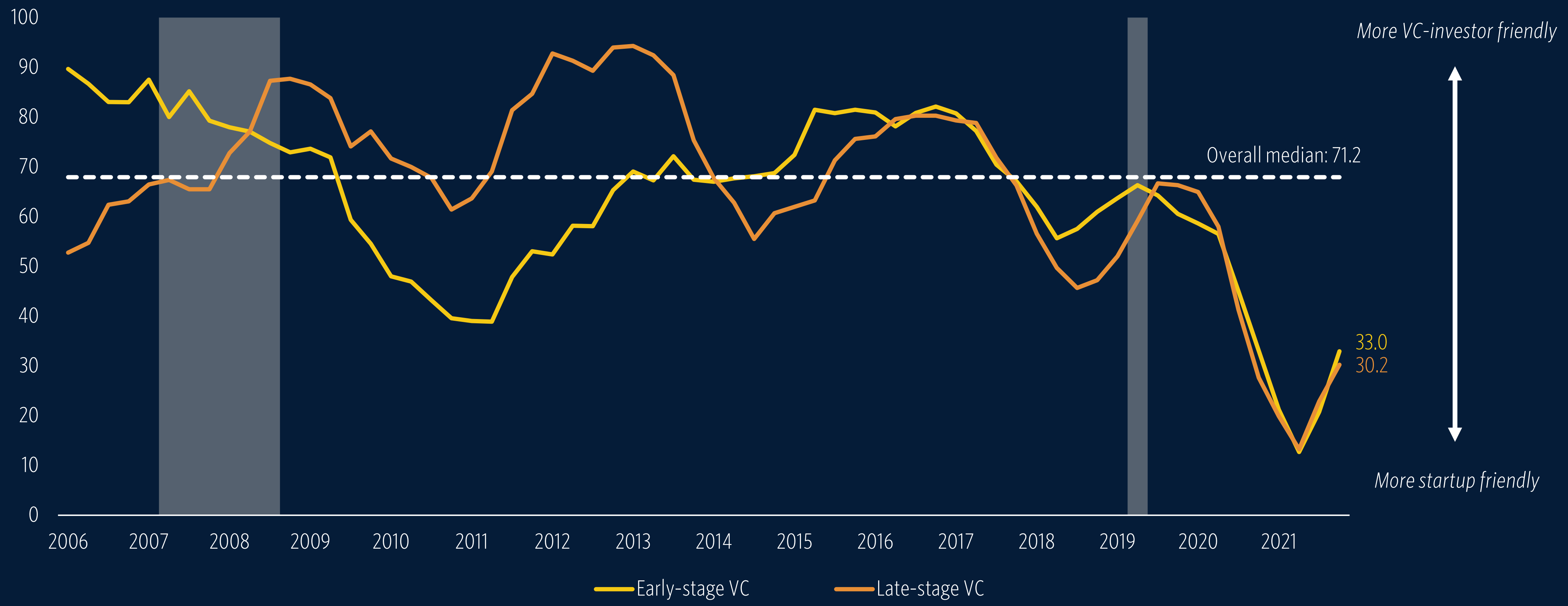



Source: PitchBook | Geography: US

*As of August 19, 2022 | **As of June 30, 2022

# With valuations for new deals starting to normalize, our VC Dealmaking Indicator has started to inch back toward investor-friendly territory.

PitchBook VC Dealmaking Indicator*

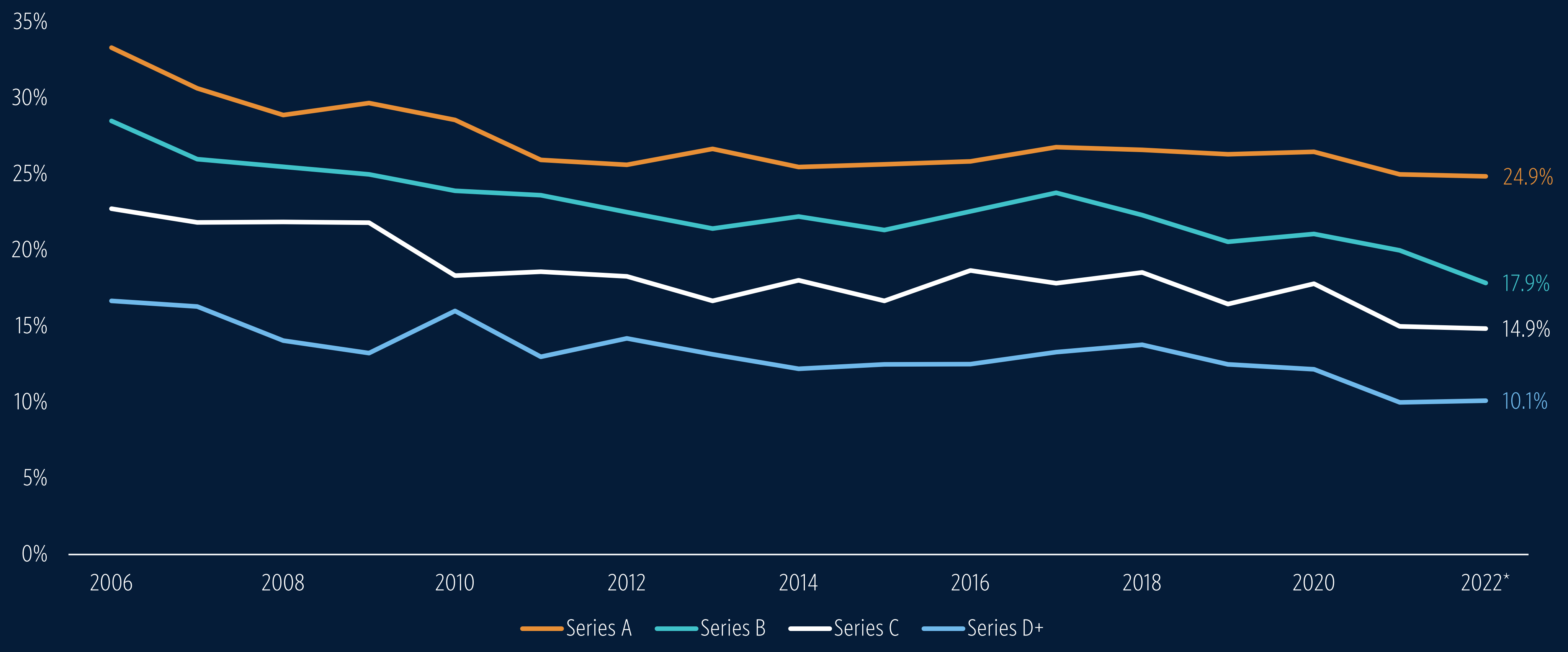



Source: PitchBook | Geography: US

*As of August 19, 2022

# Investor-friendly terms may translate to more equity control for VC investors, which have historically seen shrinking equity ownership across investment stages.

Share acquired by investors at select VC stages




Source: PitchBook | Geography: US

*As of June 30, 2022

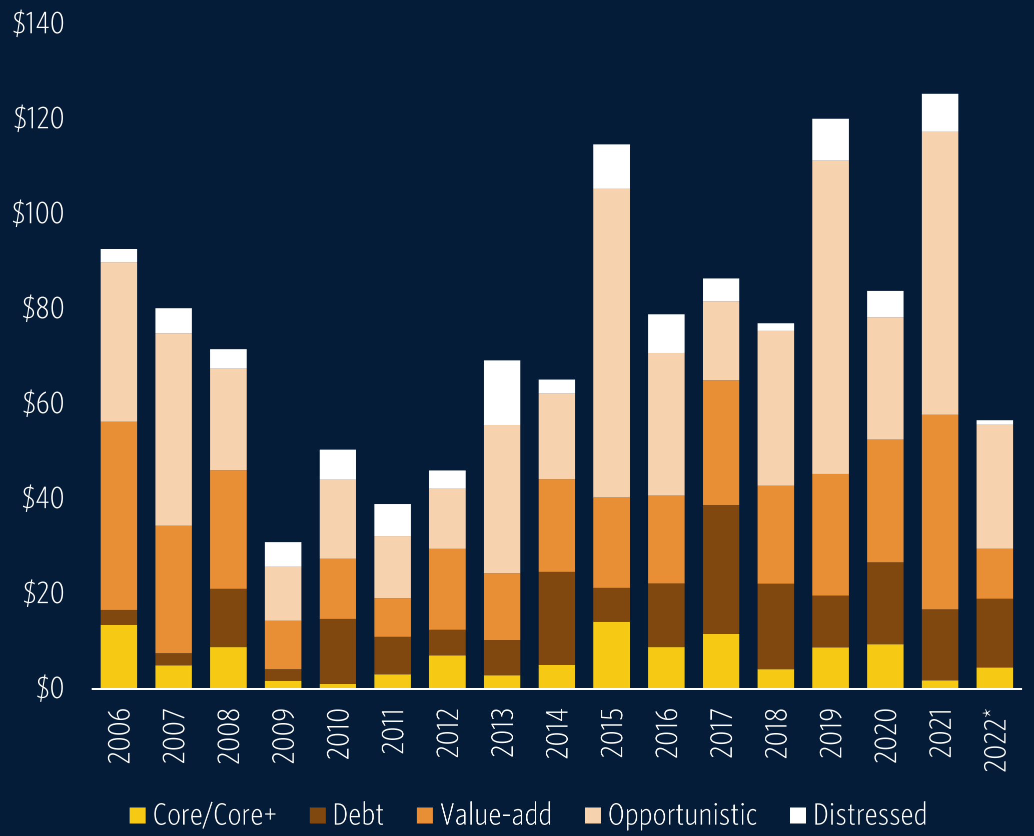
# Real estate

## Key takeaways

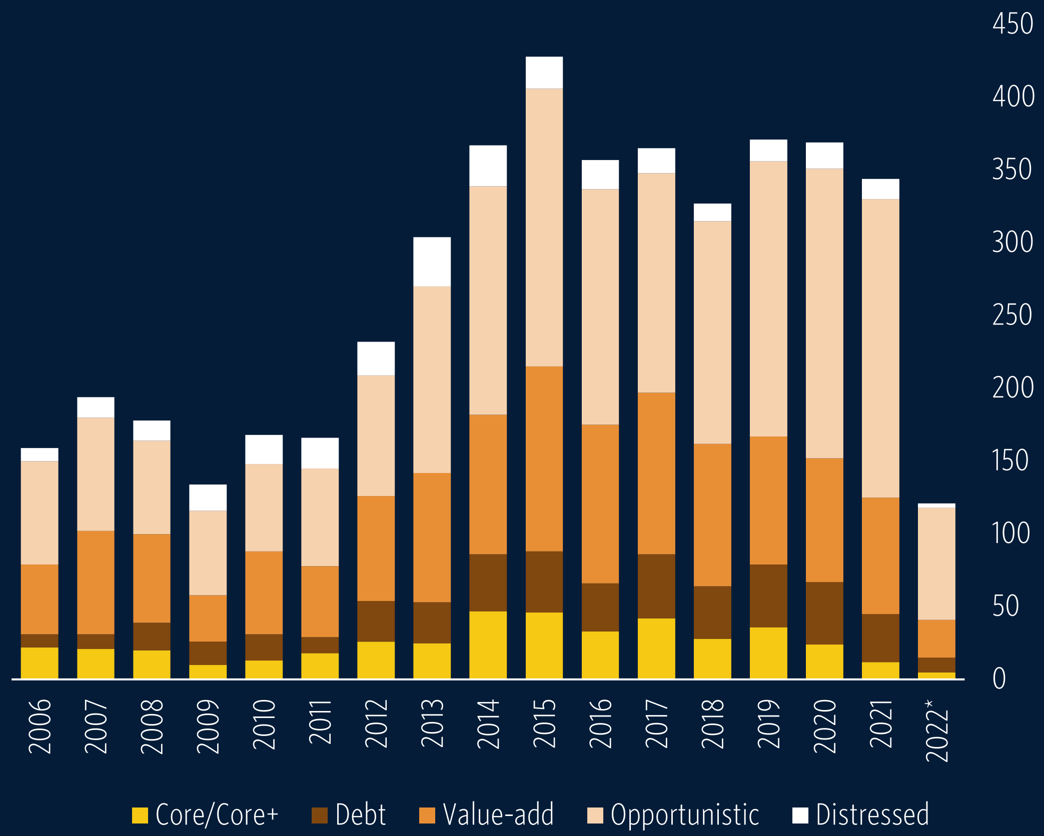
- Fundraising for real estate strategies hit a high in 2021, with $125.3 billion in fund commitments closed.
- Strong investor interest provided GPs with near-record dry powder levels at the end of 2021. Uncalled capital totaled $274.0 billion compared with $477.4 billion in net asset value.
- Venture financing of real estate technology startups has come down in 2022, given macroeconomic headwinds. However, construction technology companies have seen dealmaking hold up better.
- Tightening credit conditions are reflected by the Fed's Senior Loan Officer survey results, although CMBS delinquency rates encouragingly ticked down again in August to 3.0%.
- The public market sell-off has hit the REIT market, with pandemic-favorite industrial REITs falling -22.8% year-to-date.
- Home price appreciation was incredibly strong the past couple of years. A sustained downturn could be a significant hit to household wealth.

# Fundraising activity picked up for most real estate fund strategies in 2021 over 2020, though fund counts have continued to trend down as larger funds take market share.

Capital raised ($B) for select strategies




Funds closed by select strategies

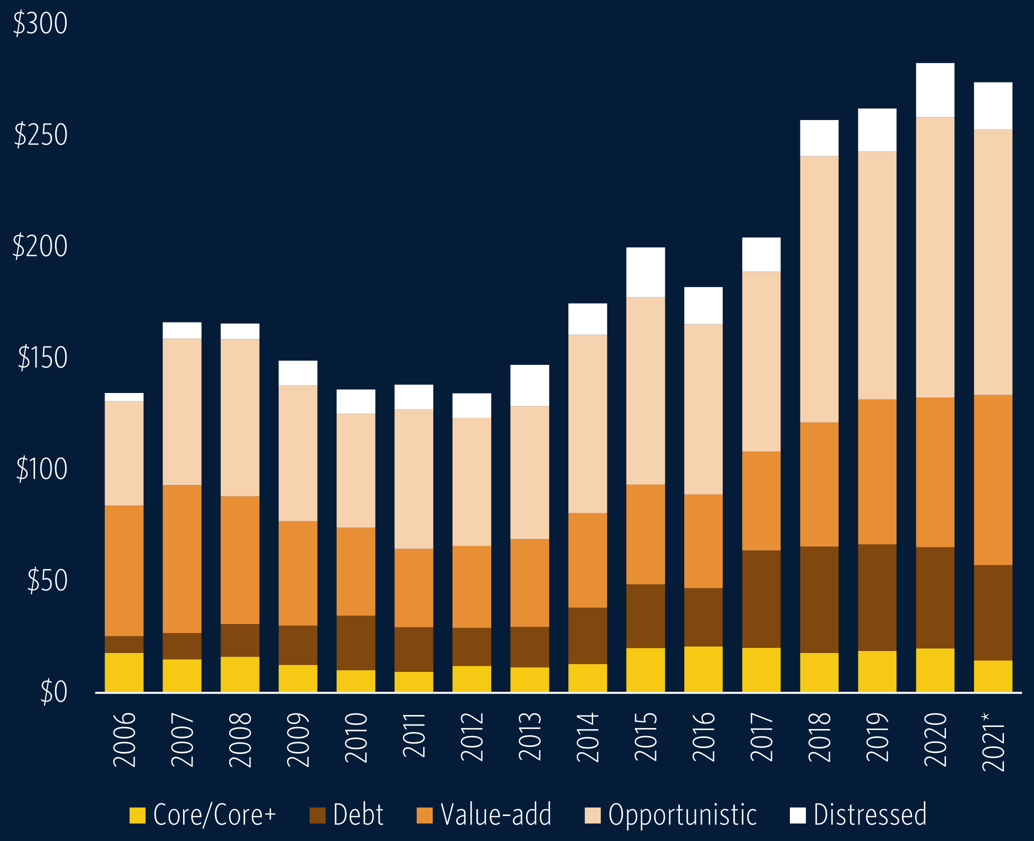



Source: PitchBook | Geography: US

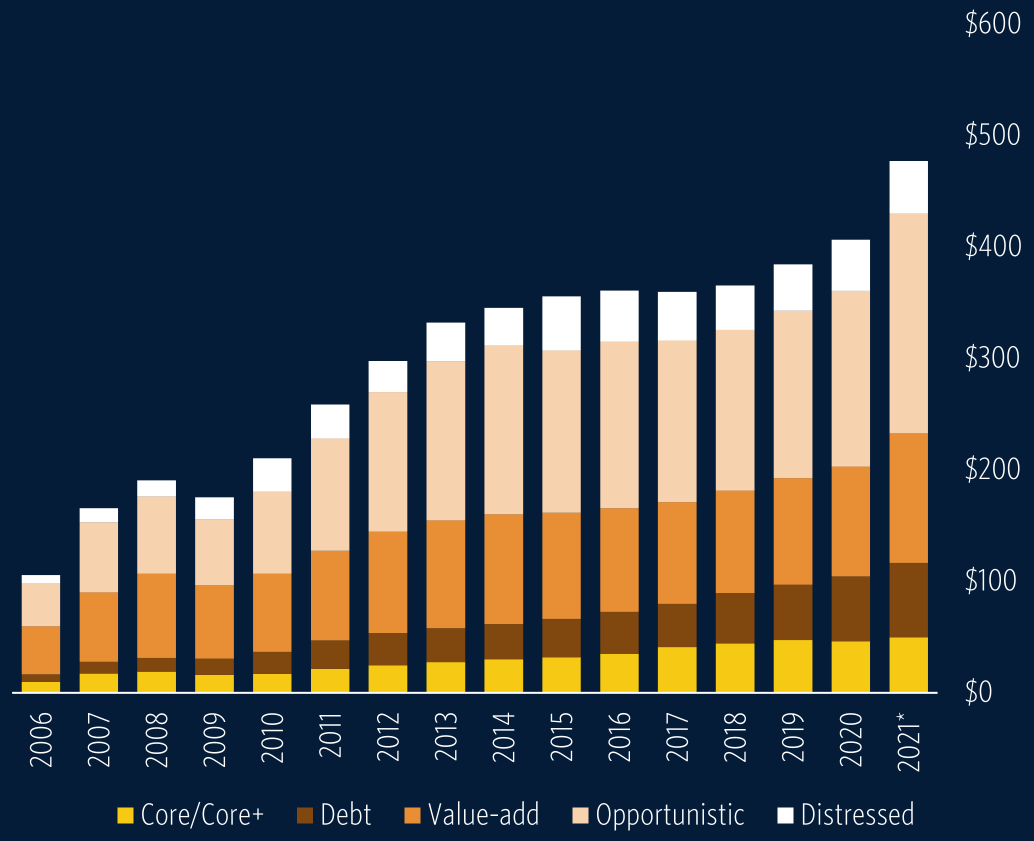
*As of August 31, 2022

## Closed-end fund net asset value is approaching $500 billion for the first time, with investor interest growing due to real estate's inflationary protections.

Fund dry powder ($B) by strategy




Fund NAV ($B) by strategy

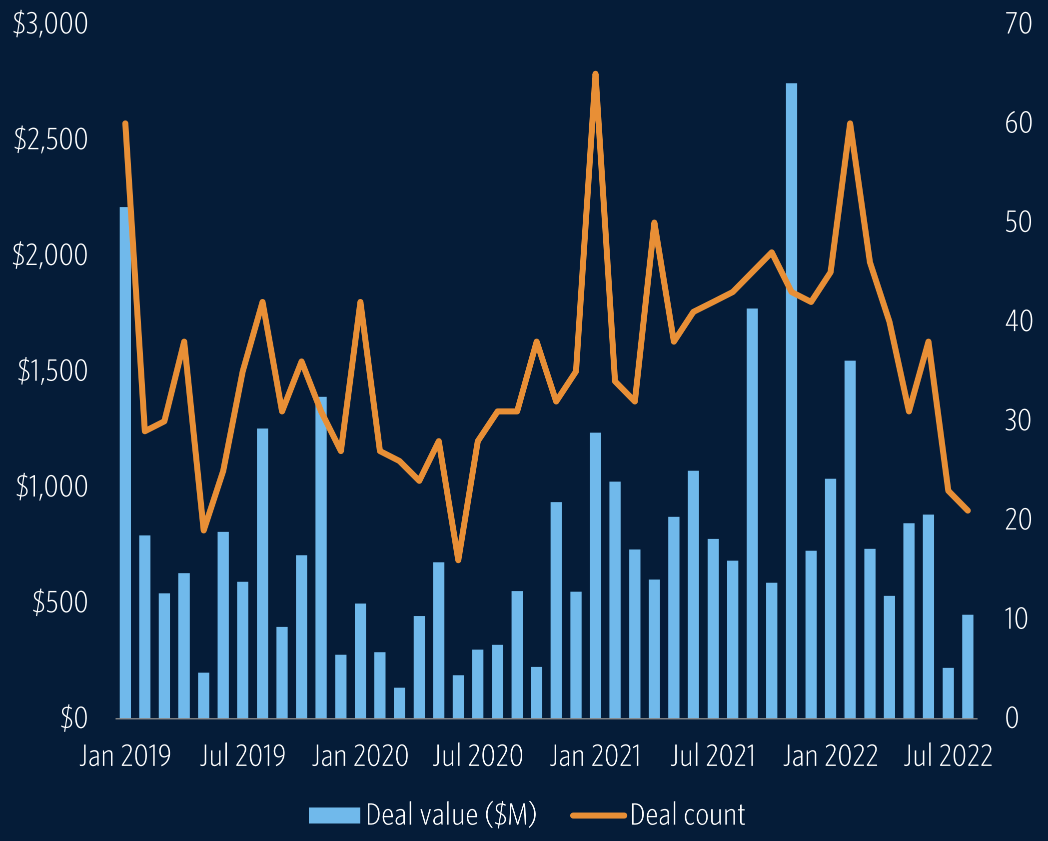



Source: PitchBook | Geography: US

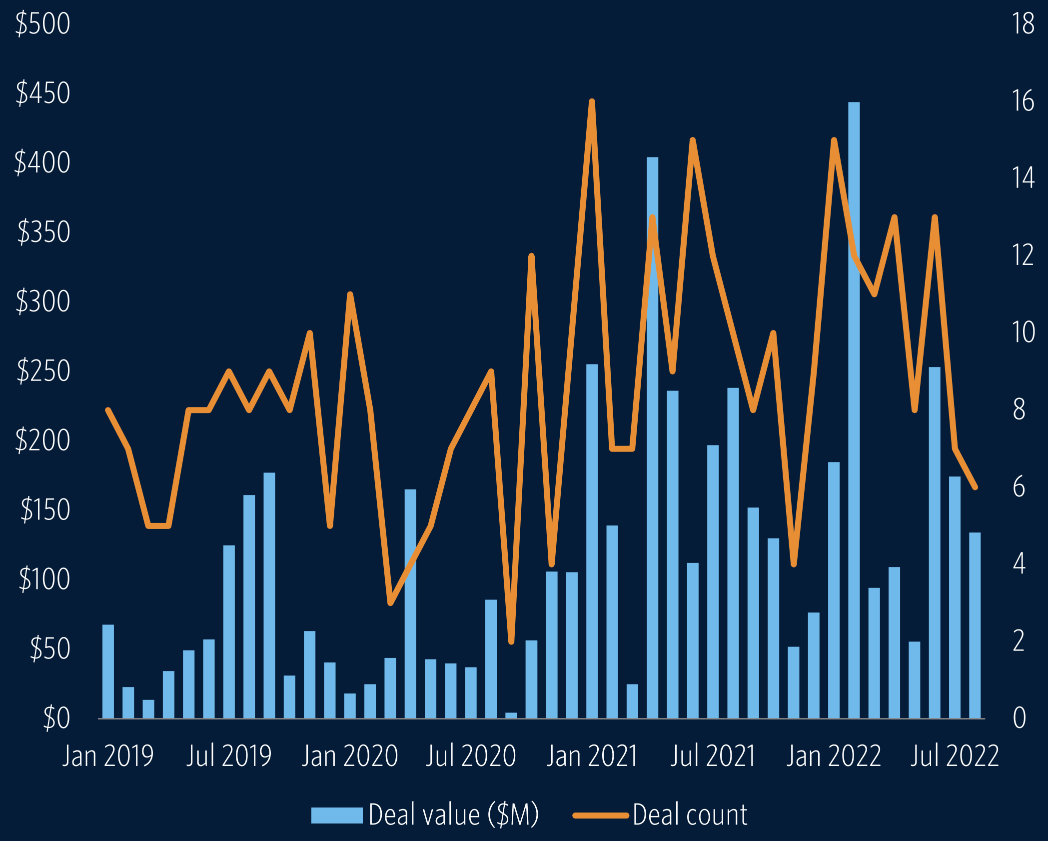
*As of December 31, 2021

# Venture activity in real estate tech startups has fallen like most of VC. Construction tech has held up better in 2022, with investors searching for solutions to property development inefficiencies.

Real estate tech VC deal activity by month*




Construction tech VC deal activity by month*

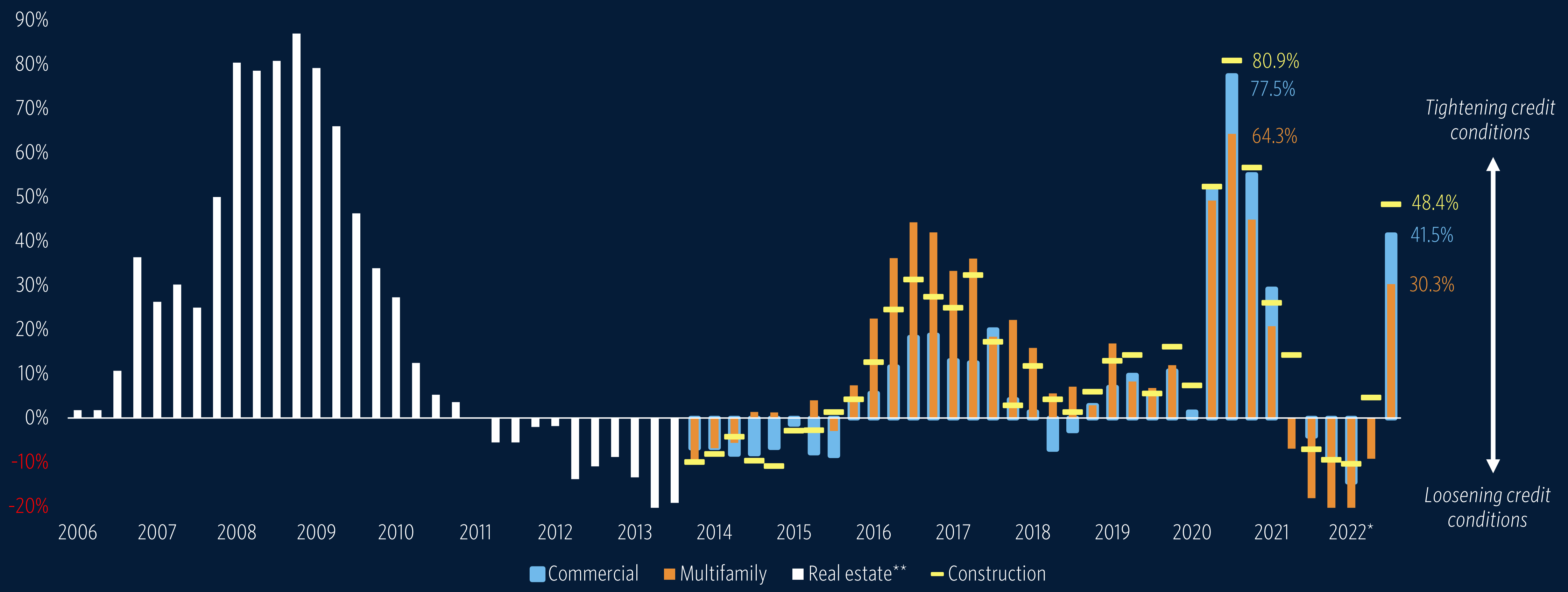



Source: PitchBook | Geography: US

*As of August 31, 2022

# The shifting macroeconomic climate has led to a swift move to tighten credit standards on real estate lending. The most cyclical category, construction, has seen the biggest pullback by loan officers.

Net share of banks tightening standards on real estate loans

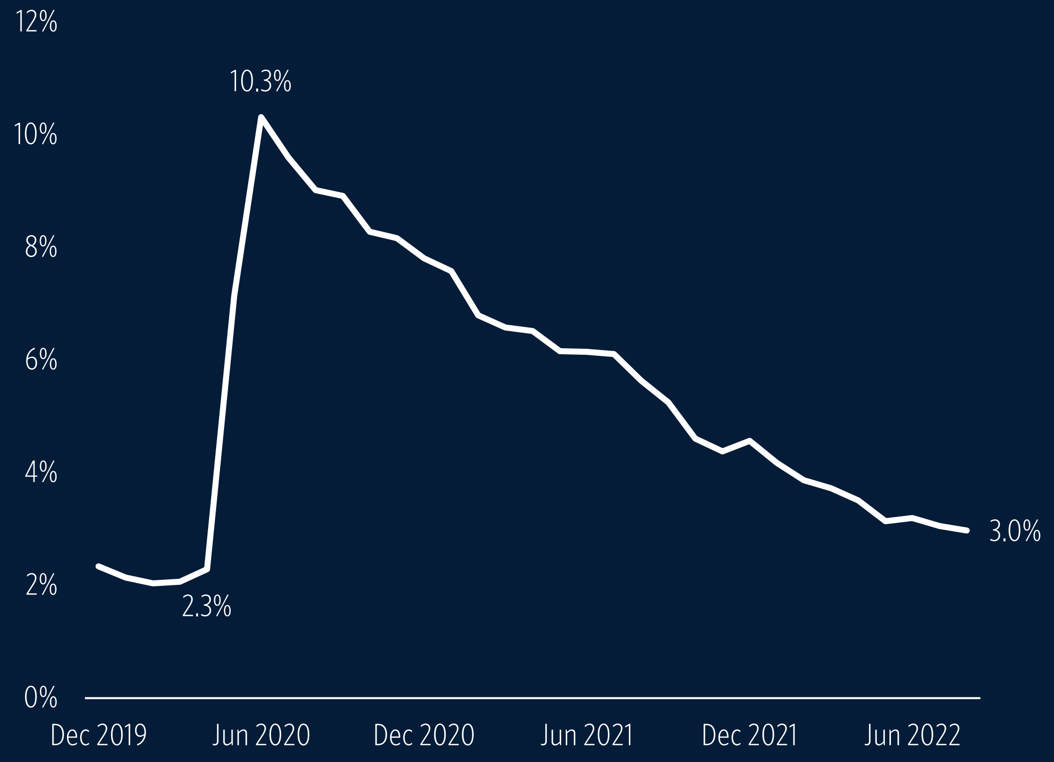



Source: Federal Reserve Senior Loan Officer Survey | Geography: US

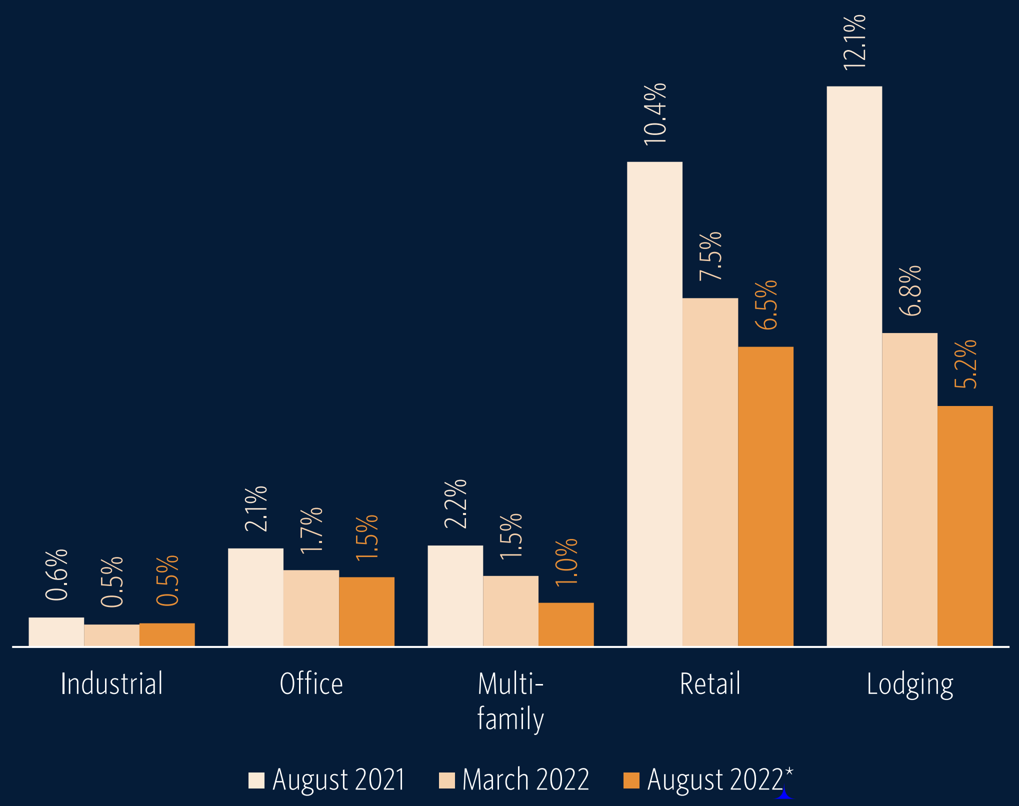
*As of August 1, 2022 | **Series was split up starting in 2014

# Despite the pullback in credit, delinquency rates have remained relatively subdued since the start of the pandemic…

CMBS delinquency rates*




CMBS delinquency rates by property type



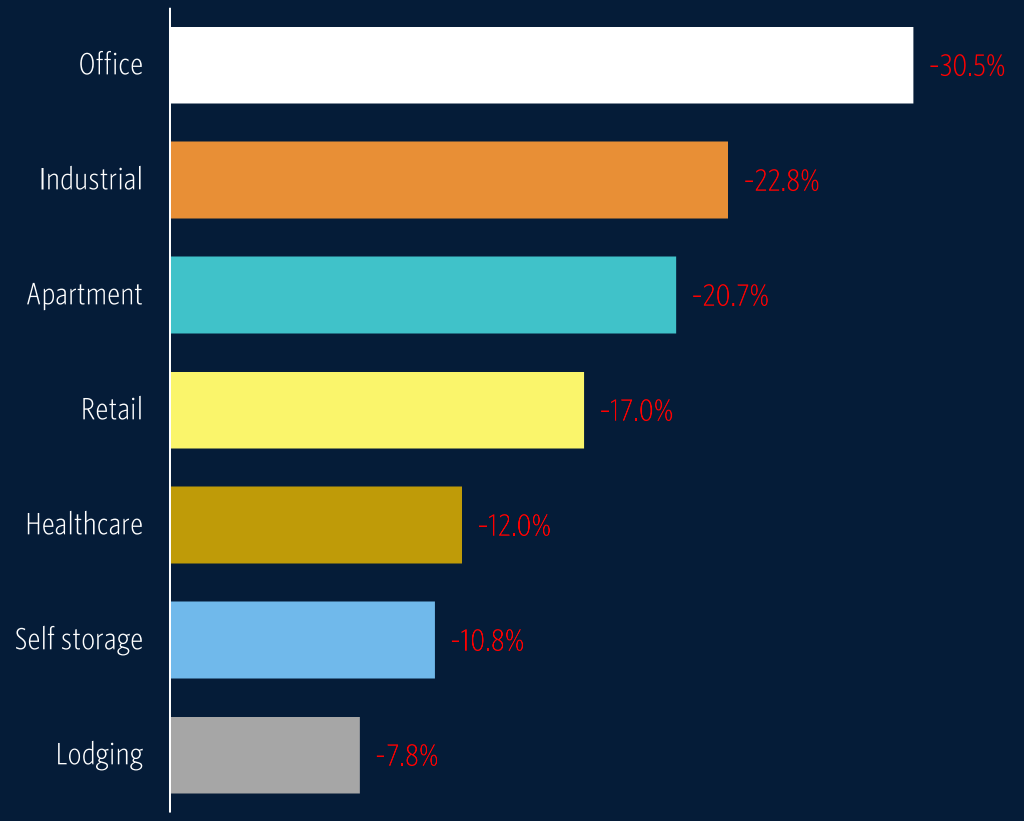

Source: Trepp | Geography: US

*As of August 31, 2022

## ...but that hasn't stopped public markets from punishing many REIT sectors, including industrial, which was a pandemic darling stemming from e-commerce demand.

Sector-specific REIT index total returns (rebased to 100 at end of 2015)*


Sector-specific REIT index total returns YTD*

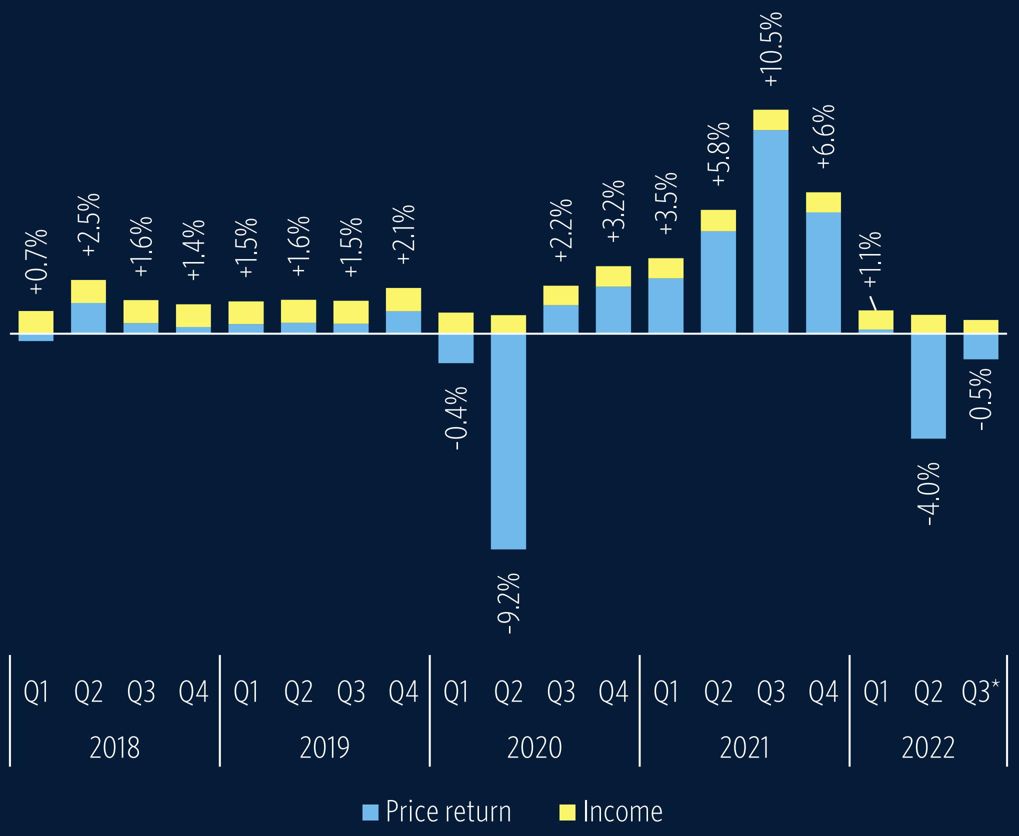



Source: Nareit | Geography: US

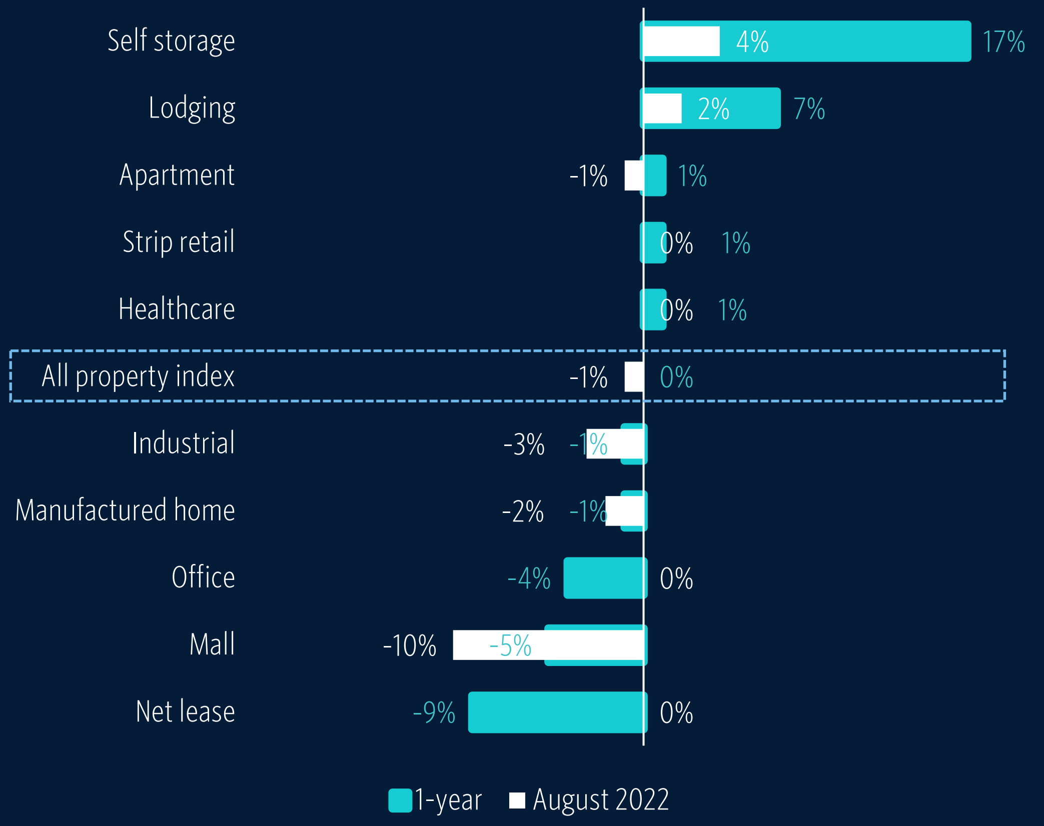
*As of August 31, 2022

# However, on the private market side, negative performance hasn't been quite as painful.

Green Street All Property Return Index




Green Street Price Index change by property type*

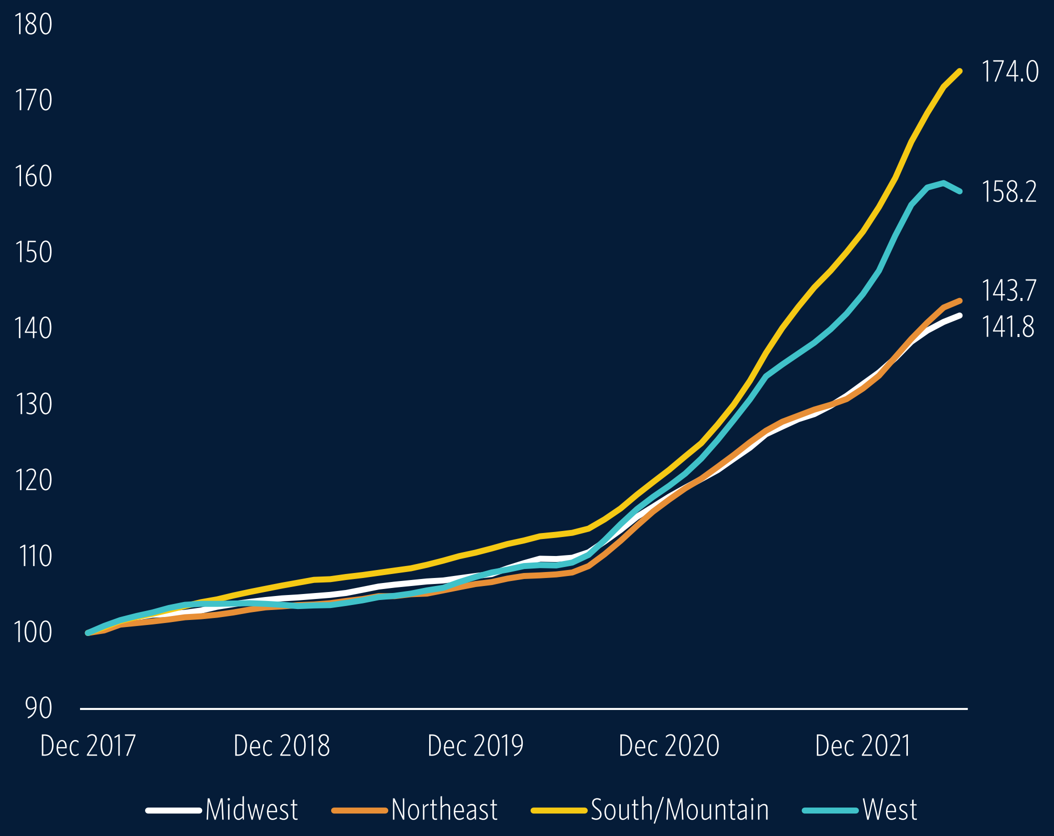



Source: Green Street | Geography: US

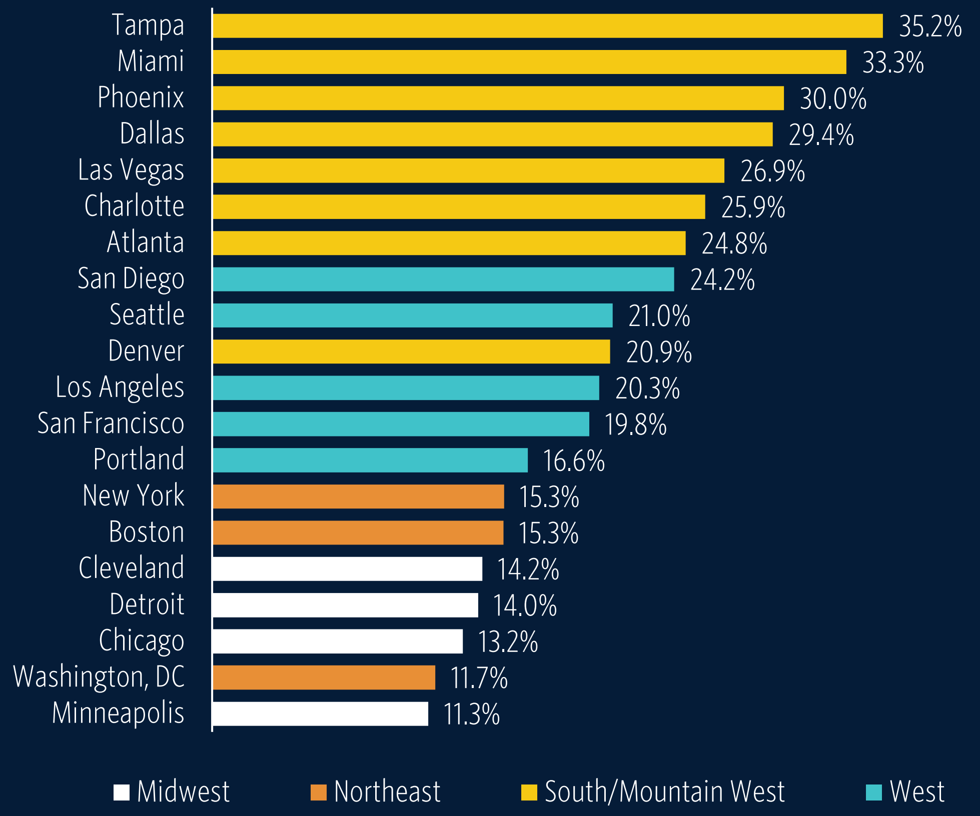
*As of August 31, 2022

# In residential real estate, hot sunbelt markets saw huge home price appreciation. The run-up in values might be at risk of hurting household wealth if demand remains subdued by higher rates.

Average home price appreciation across select cities in US regions (rebased to 100 at end of 2017)*




Annualized home price growth (March 2021 to June 2022)*

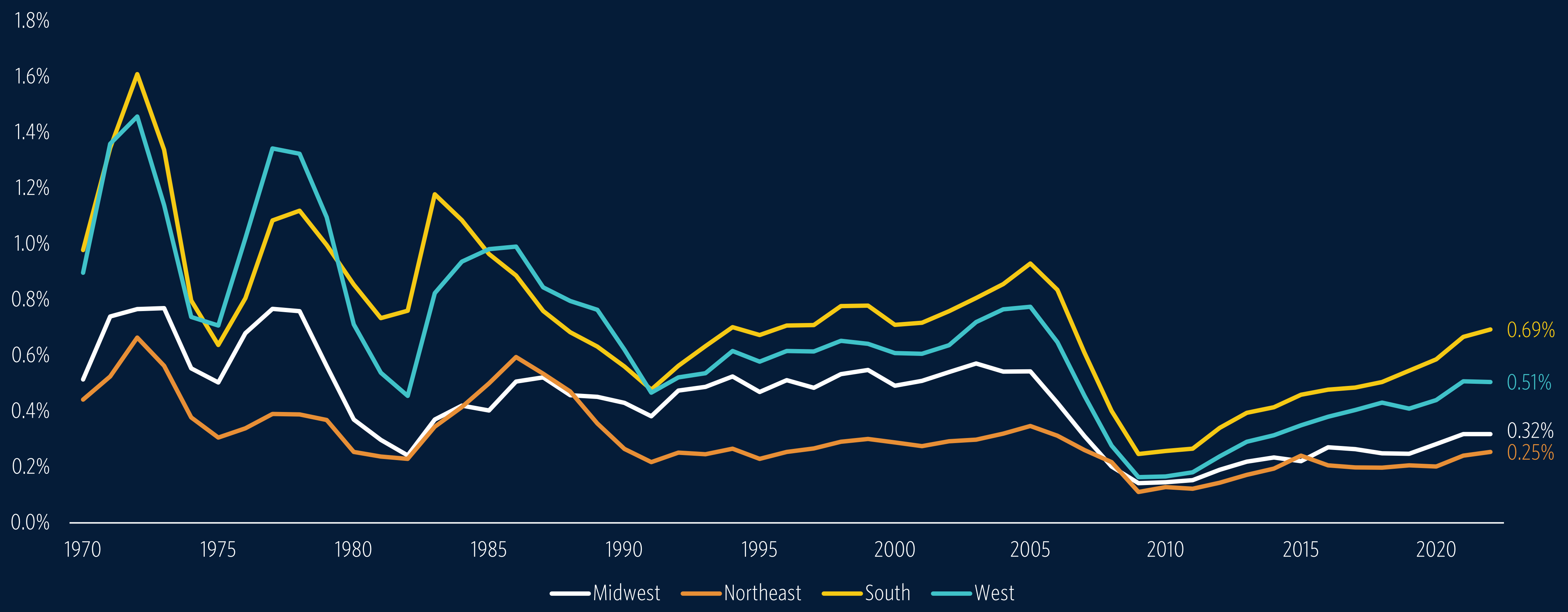



Source: S&P/Case Shiller | Geography: US

*As of June 30, 2022

## Spikes in home values have been the result, in part, of low new construction starts since the GFC. Risks of oversupply are highest in the South, where home values have also seen the greatest rise.

Housing starts as a share of population by region*




Sources: FRED, US Census | Geography: US

*As of July 31, 2022

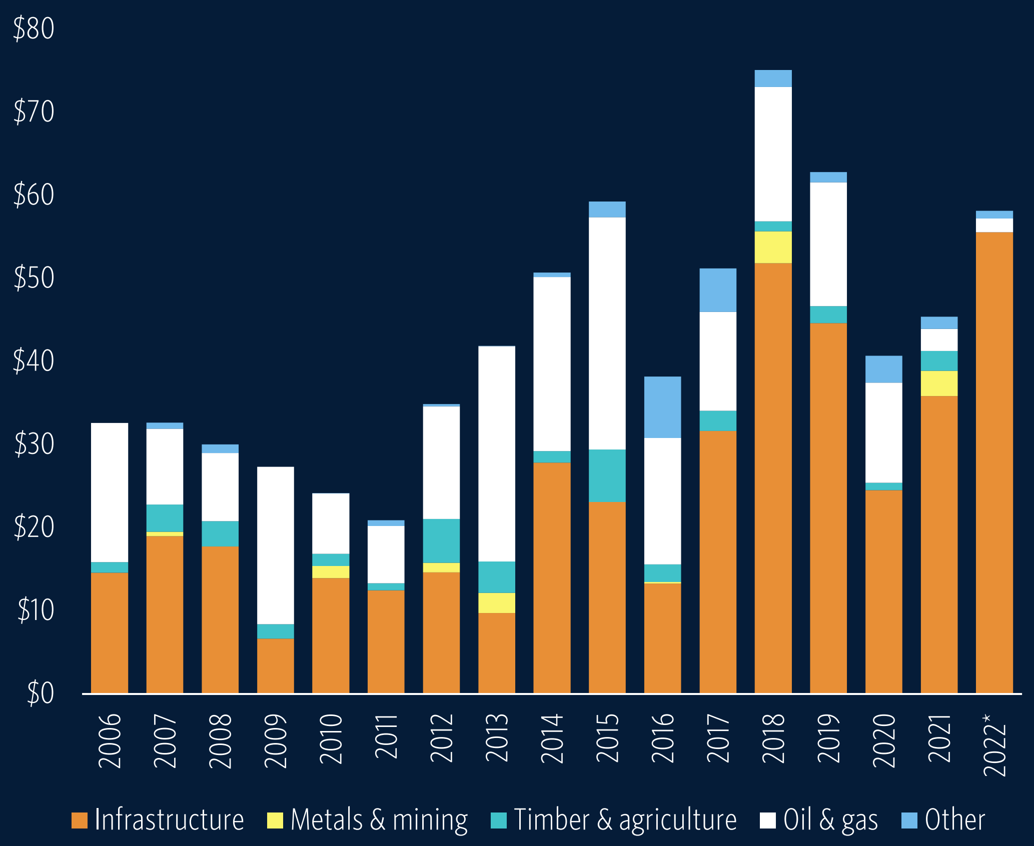
# Real assets

## Key takeaways

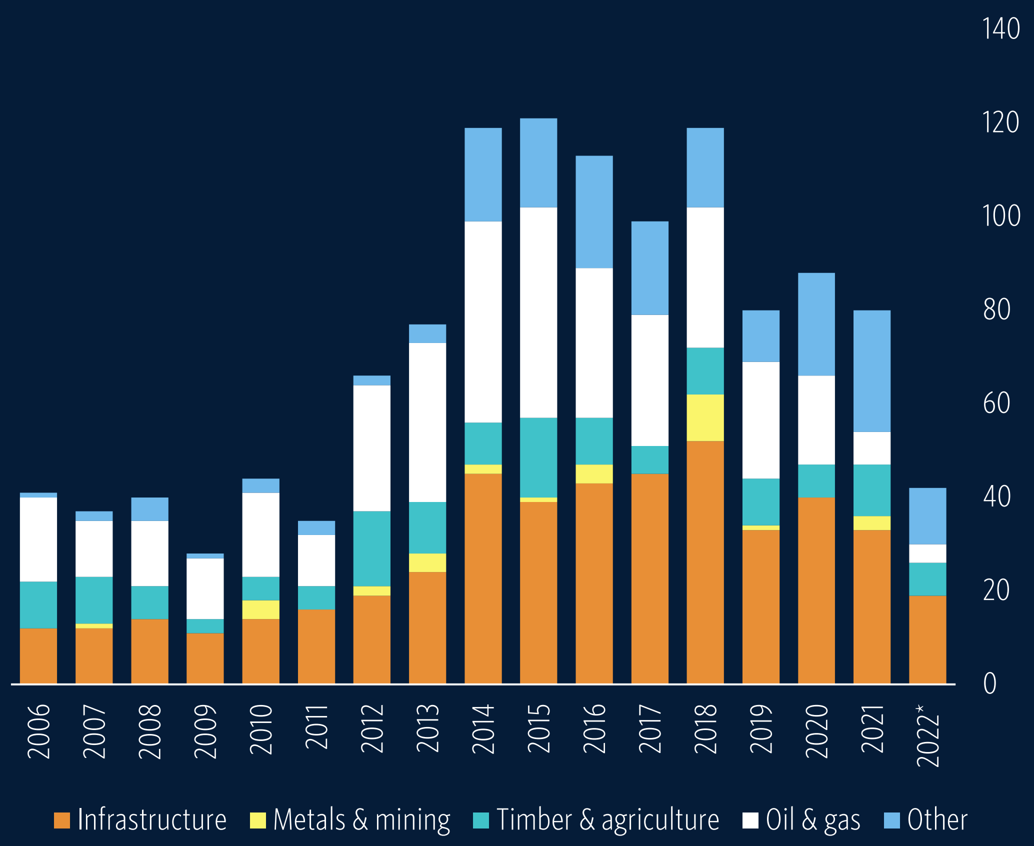
- Infrastructure dominated fundraising in 2021 and so far in 2022, and total real assets fundraising has already topped last year's capital raised ($58.2 billion through August 2022 compared with $45.4 billion for 2021).
- Commodity price spikes, especially in energy markets, have helped public market performance of commodity-linked industries, but even companies in the renewables space have held up relatively well.
- Venture activity for climate tech and clean tech startups has remained reasonably strong, with a total of $21.6 billion in dealmaking in 2022.

## Dominated by infrastructure, real assets fundraising has already eclipsed 2021 totals through August. The passage of infrastructure legislation may help explain the rebound in interest.

Capital raised ($B) for select strategies




Funds closed by select strategies

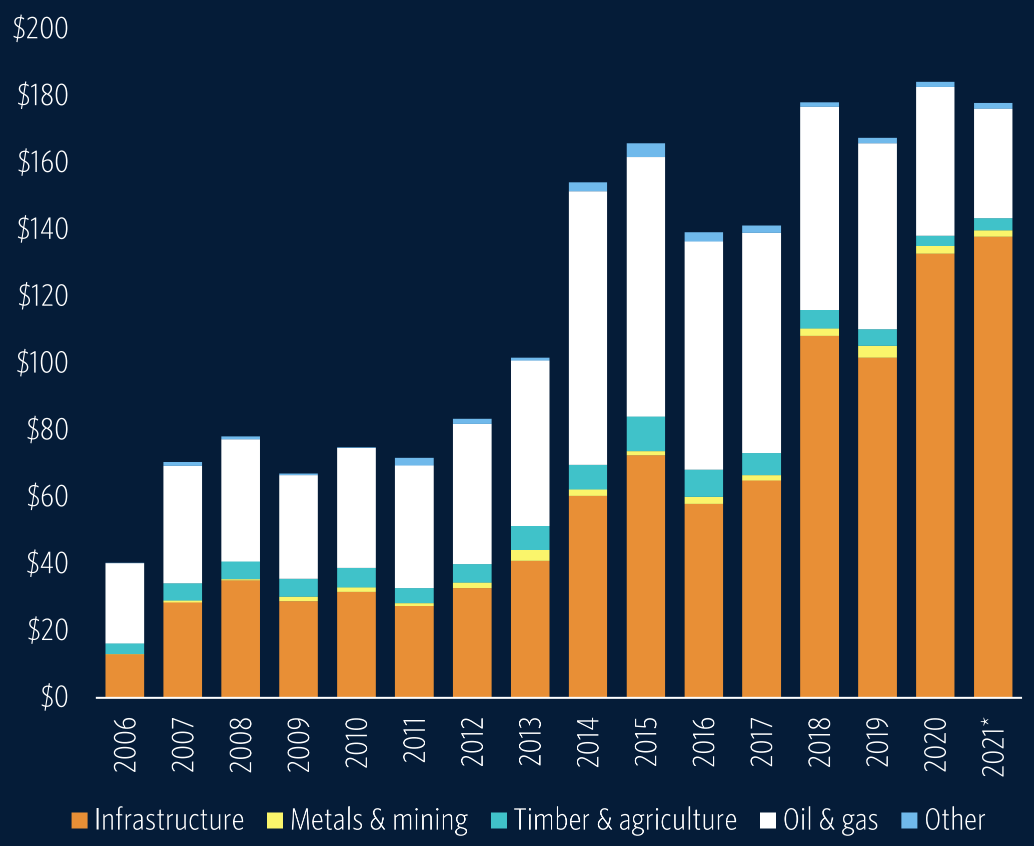



Source: PitchBook | Geography: US

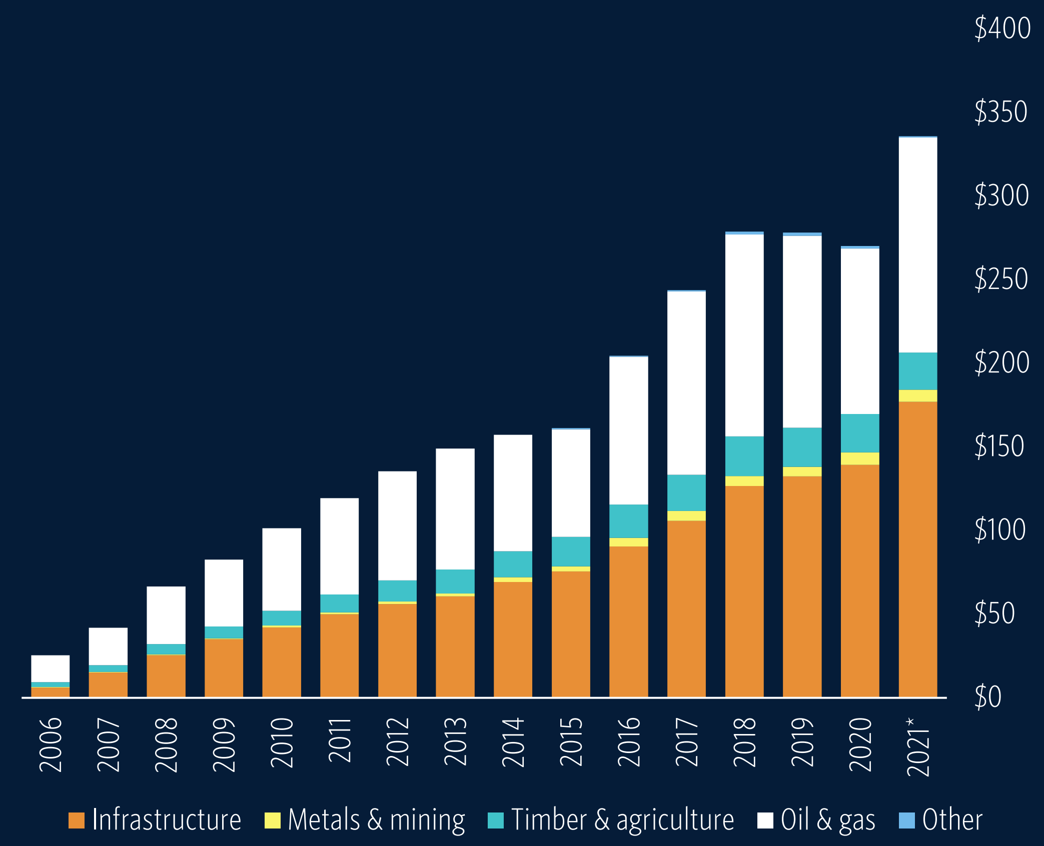
*As of August 31, 2022

# Near-record dry powder levels at the start of 2022 have received plenty of attention considering the global energy crisis. Oil & gas funds had a bit more than $30 billion in uncalled capital.

Fund dry powder ($B) by strategy




Fund NAV ($B) by strategy

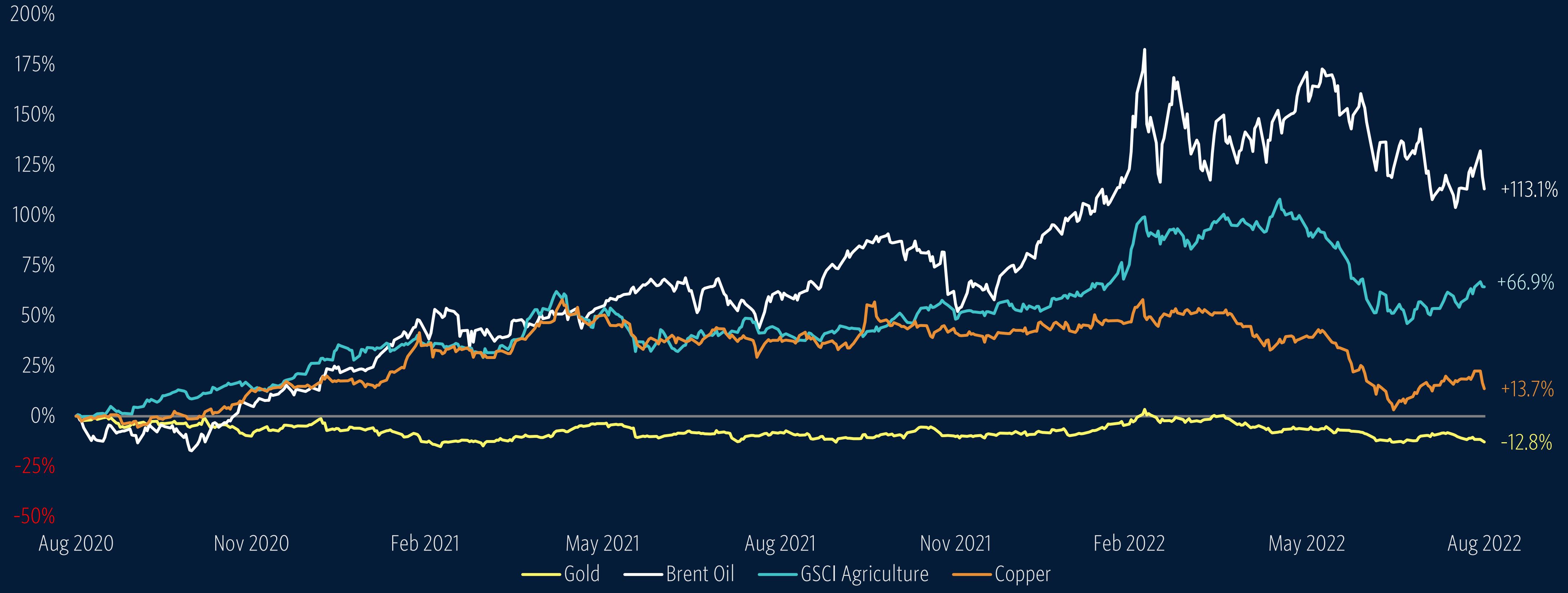



Source: PitchBook | Geography: US

*As of December 31, 2021

## The inflationary environment has not done much for gold's returns. Input commodities such as oil and agriculture have seen their run-ups remain persistent.

Select commodities price performance over the last two years*

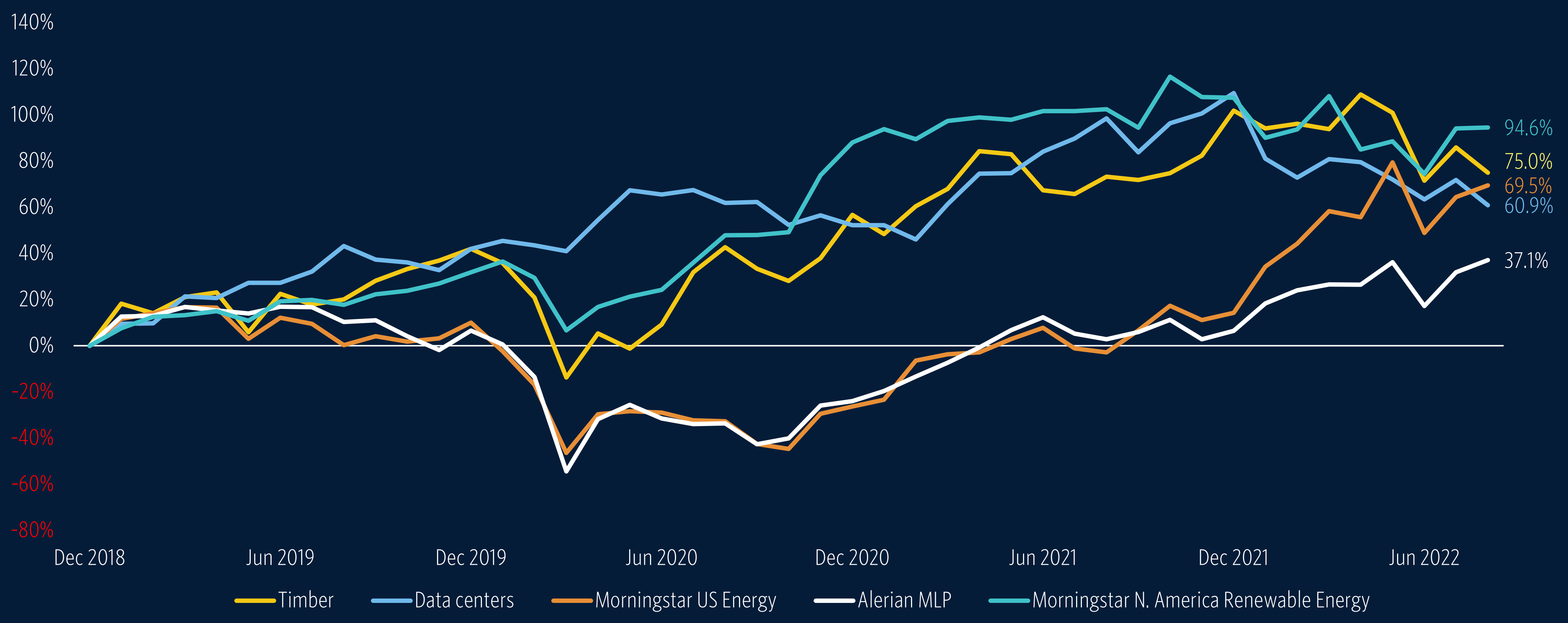



Source: Morningstar | Geography: Global

*As of August 31, 2022

## The new environment for 2022 has benefited traditional energy equities, although a basket of renewable energy stocks has held up on performance as well...

Select real assets public equity total returns*

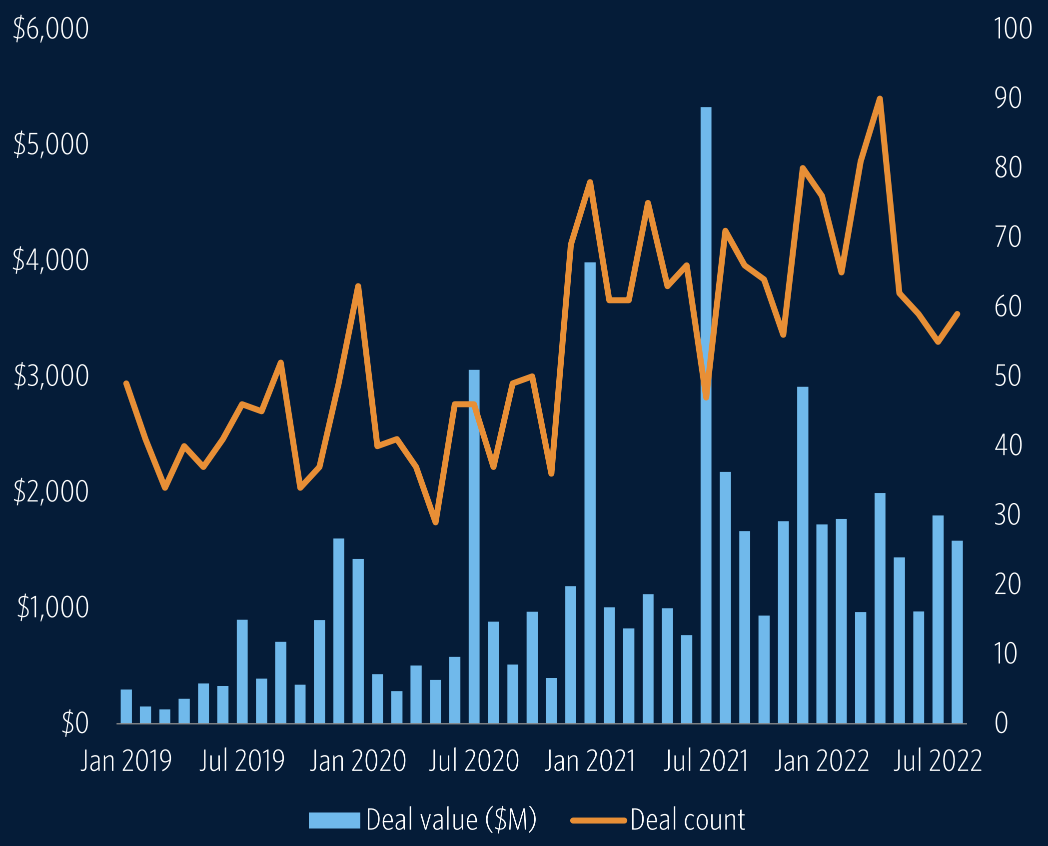



Sources: Nareit, Morningstar | Geography: US

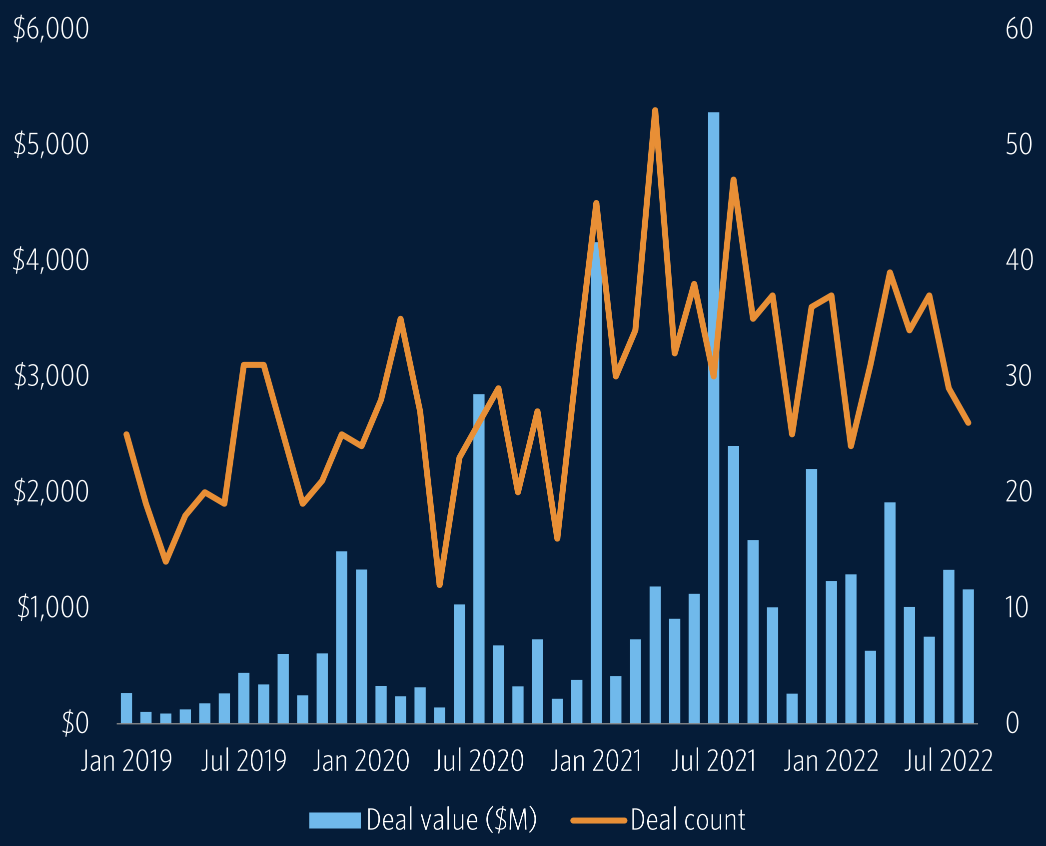
*As of August 31, 2022

# ...and sustained performance of renewables increases the viability of new investment. VC activity for climate tech and clean tech startups has been relatively robust despite the market pullback.

Clean tech VC deal activity by month*




Climate tech VC deal activity by month*




Source: PitchBook | Geography: US

*As of August 31, 2022

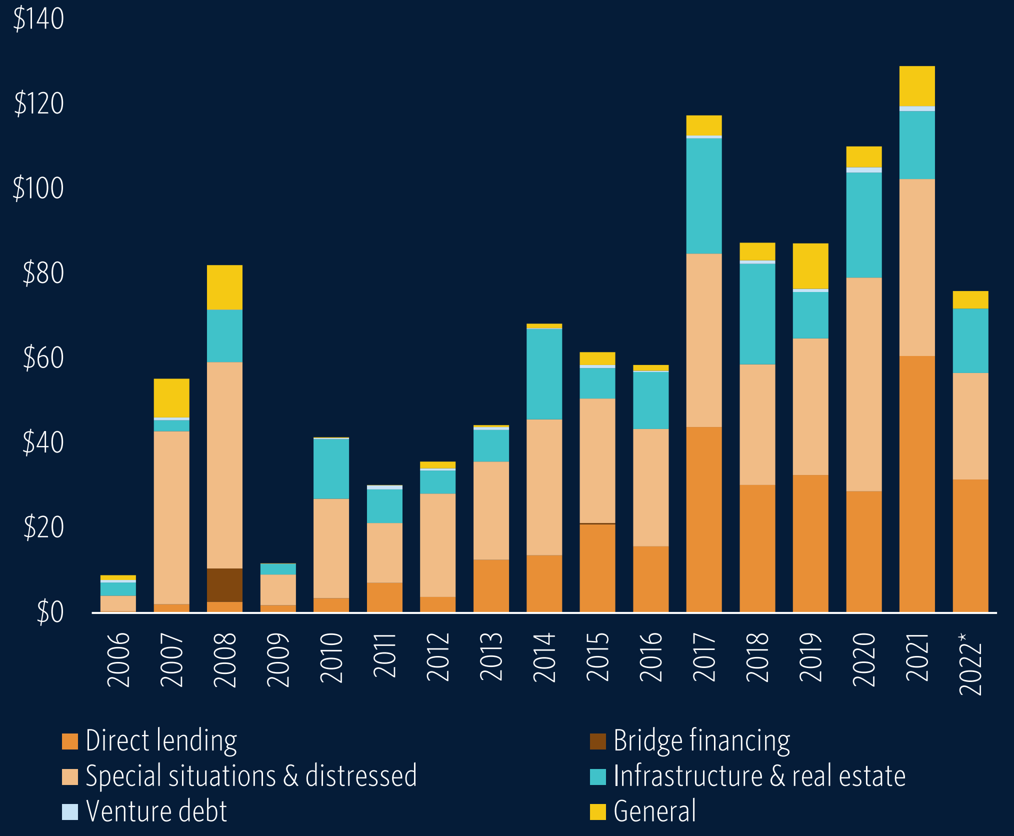
# Debt markets

## Key takeaways

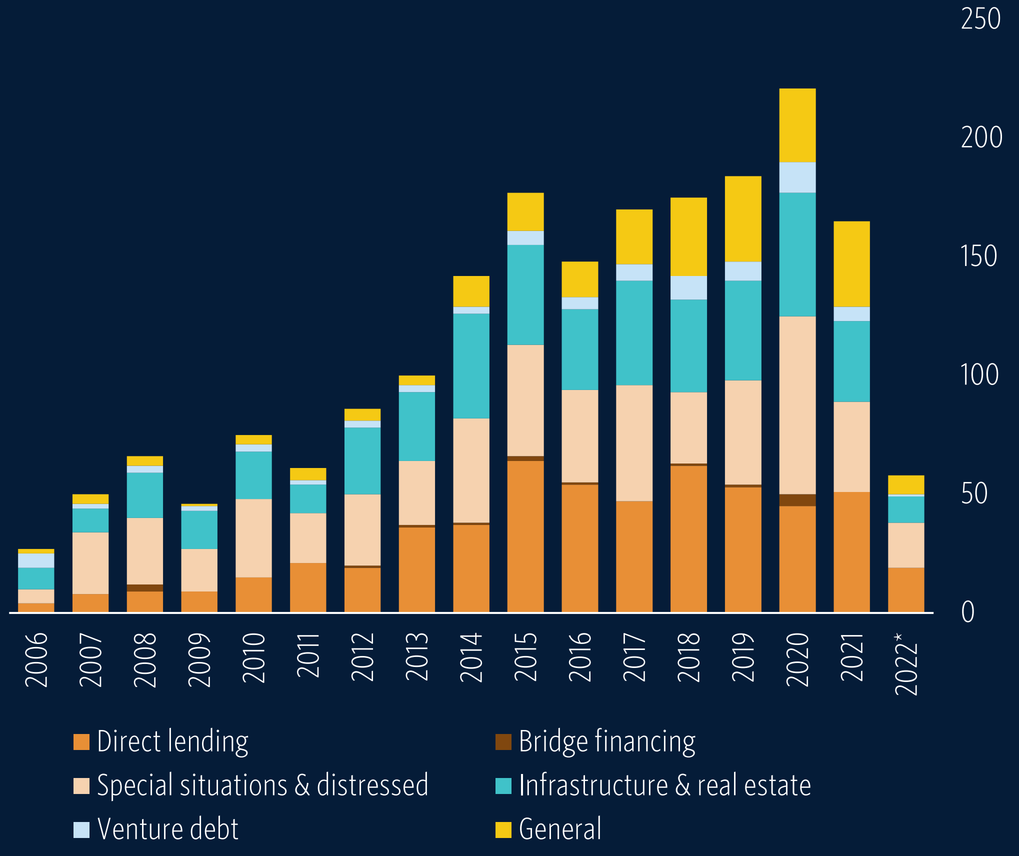
- Fundraising hit a record in 2021 for private debt, at $129.0 billion, and the pace is not far off for 2022, as $75.9 billion has closed through August.
- Dry powder for debt funds totaled $259.9 billion at the end of 2021, led by distressed debt & special situations funds, with $104.9 billion, which may be well-positioned if there is an economic hard landing.
- Similar to real estate credit conditions, results from the Senior Loan Officer survey suggest a pullback in lending is underway for small and medium-sized businesses.
- Evidence of a pullback in the lending market is clear when looking at LCD data, which shows volumes for middle-market companies, high-yield loans, and leveraged loans all pulling back with rising rates.
- Notably, new issue yields for middle-market companies have nearly doubled in the last year to 8.4%.

# Private debt saw record fundraising in 2021, and 2022 has tracked at a good pace, led by direct lending. Exposure to floating rate debt has been high on the wish list for many LPs.

Capital raised ($B) for select strategies




Funds closed by select strategies

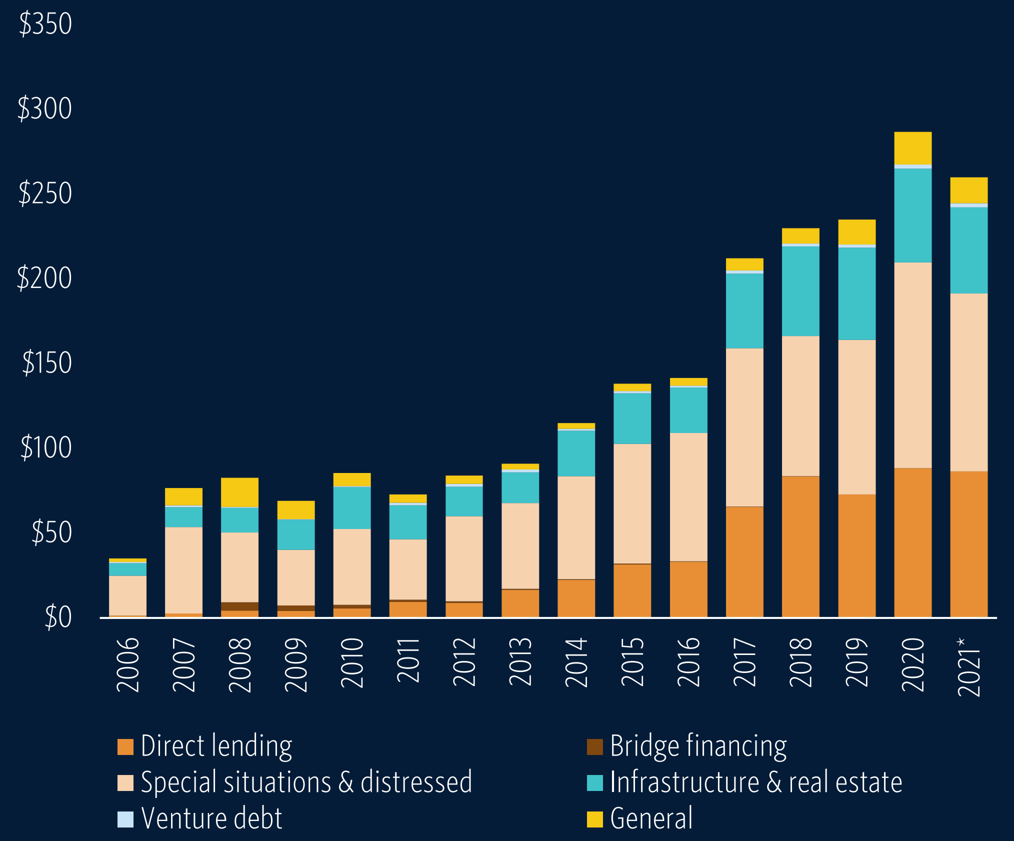



Source: PitchBook | Geography: US

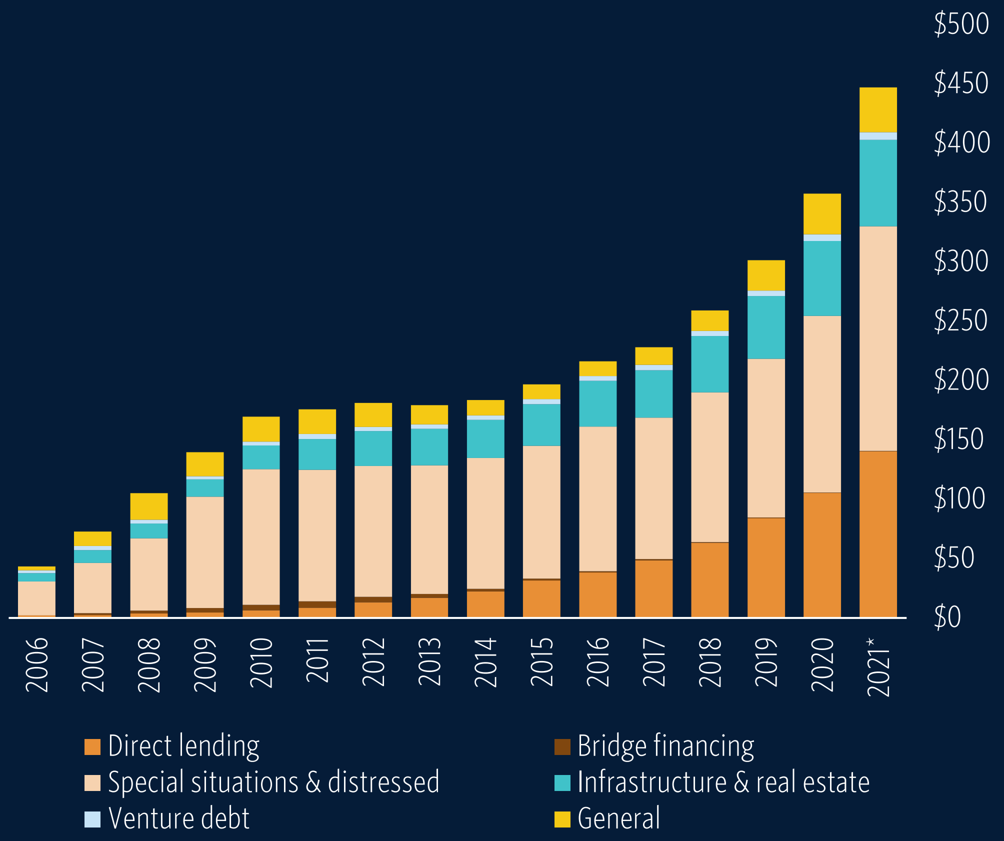
*As of August 31, 2022

# Debt fund dry powder remains near all-time highs, as direct lending is finding ways to supplant bank lending to midsized private companies...

Fund dry powder ($B) by strategy




Fund NAV ($B) by strategy

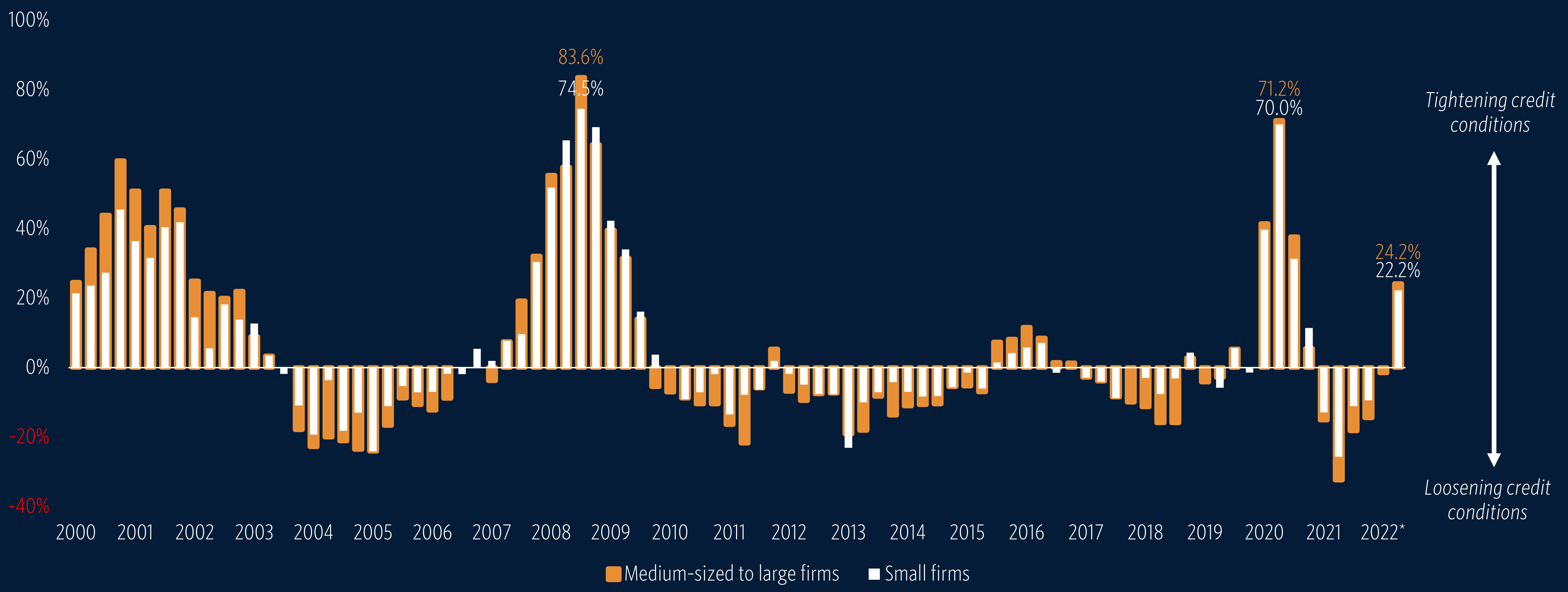



Sources: PitchBook | Geography: US

*As of December 31, 2021

# …but a reversal in credit conditions by traditional lenders suggests market pain is anticipated.

Net share of banks tightening standards on loans to small and medium-size to large firms

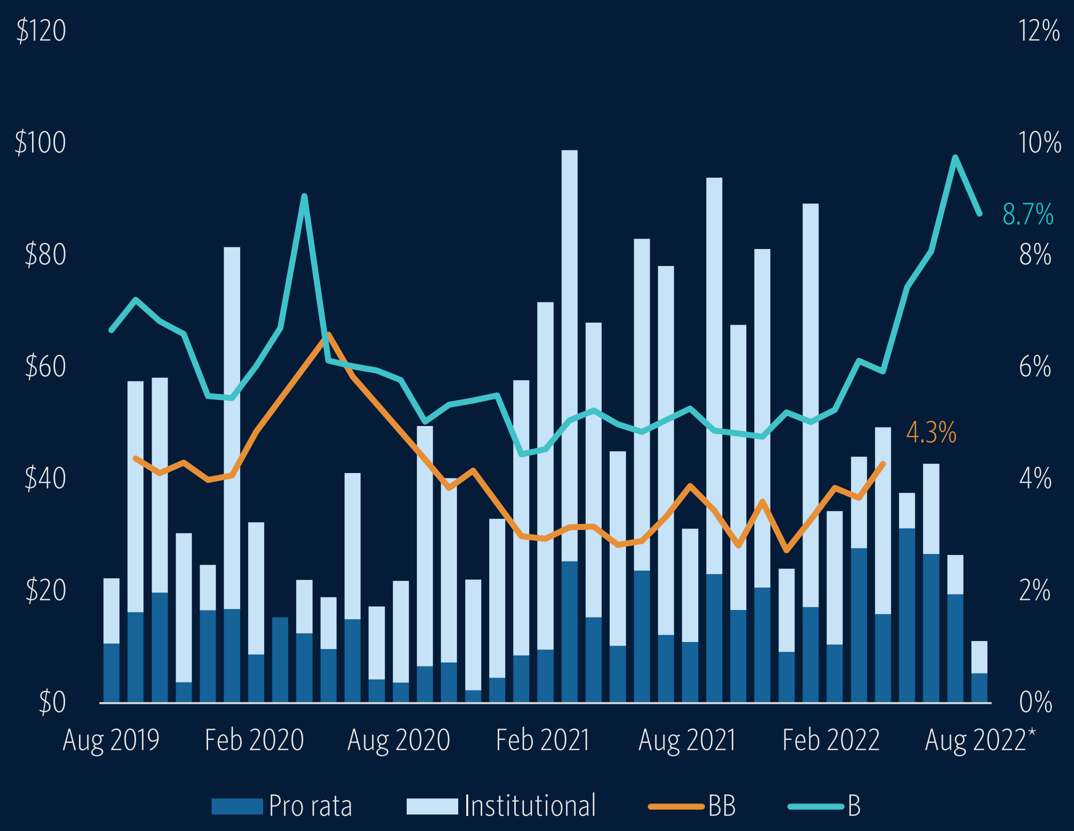



Source: Federal Reserve Senior Loan Officer Survey | Geography: US

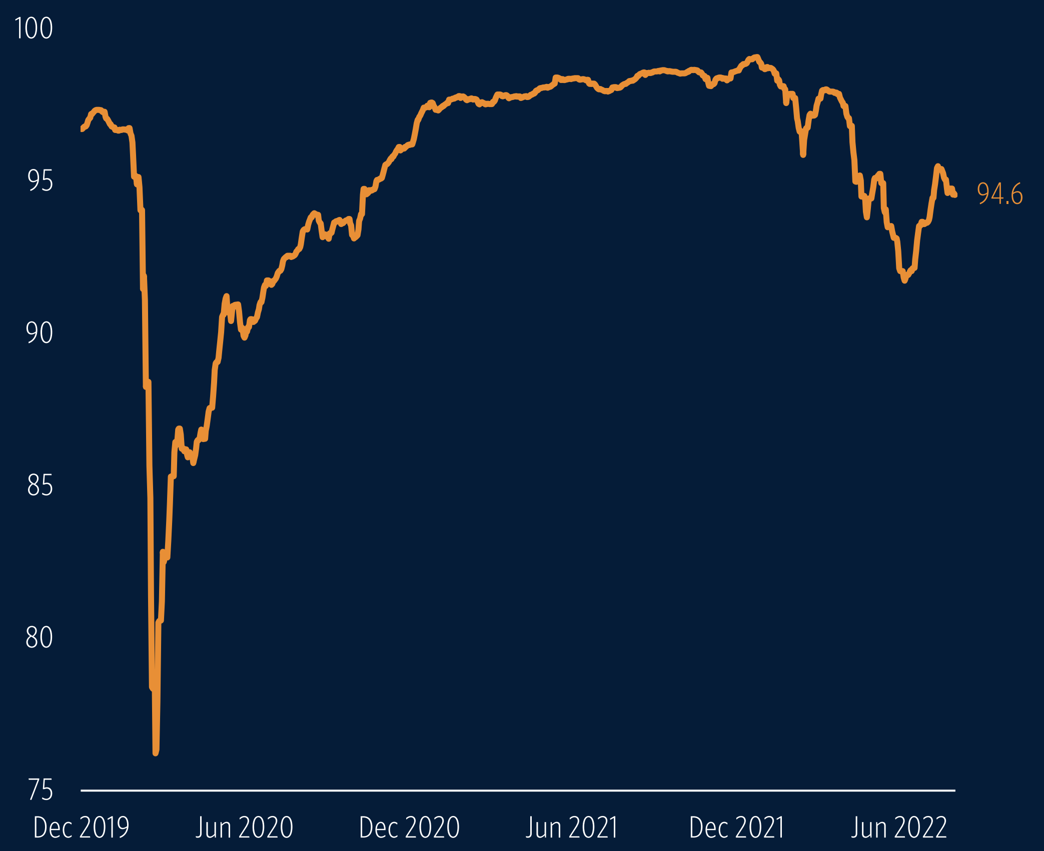
*As of August 1, 2022

# Debt markets reflect some pain already, with volumes falling and new issue yields rising throughout 2022. Average bids on leveraged loans fell to a low of 91.8 in July.

Leveraged loan volume ($B) and new issue yields




Weighted average bid of leveraged loans*

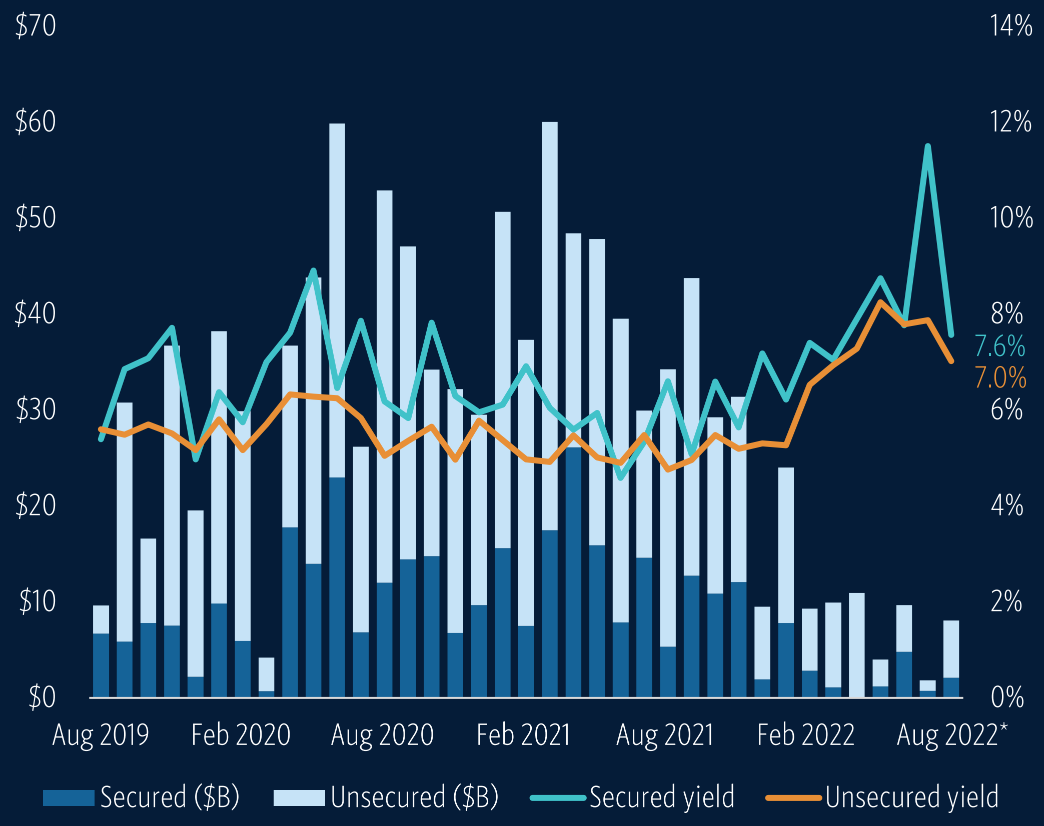



Source: LCD | Geography: US

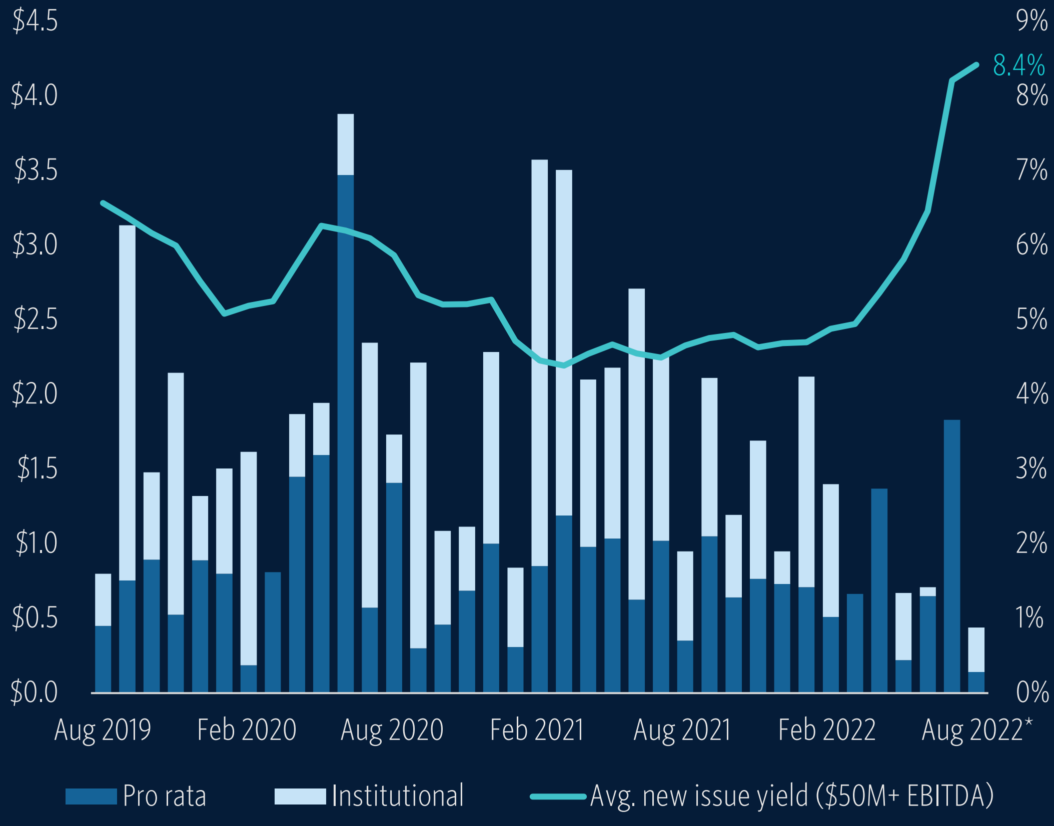
*As of August 31, 2022

# The pullback has been consistent across debt categories. High-yield loans and middle-market loan volumes are well off the pace from 2020 and 2021, given the tighter credit environment.

High-yield loan volumes and yields




Middle-market loan volume ($B) and new issue yields




Source: LCD | Geography: US

*As of August 31, 2022

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# Additional research


### Q2 2022 US PE Middle Market Report

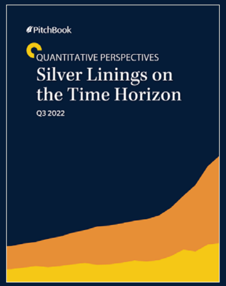
*Download the report here*


### Q3 2022 Global Real Estate Report

*Download the report here*


### August 2022 Global Markets Snapshot

Download the report here




### Q3 2022 Quantitative Perspectives: Silver Linings on the Time Horizon

*Download the report here*


### Q2 2022 Global Private Markets Fundraising Report

*Download the report here*


### Q2 2022 US VC Valuations Report

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