



QUANTITATIVE PERSPECTIVES

US Market Insights

Q3 2021

Introduction

A forecast of surging private asset valuations and rocketing stock markets would have been bold back in March 2020, but as we approach two years of the COVID-19 crisis, many areas of financial markets could not look more buoyant. Enormous support from the Federal Reserve and fiscal stimulus from Congress to combat the knock-on effects of the pandemic have made for a multitude of interesting storylines. In our first iteration of *Quantitative Perspectives: US Market Insights*, we focused on fund cash flows—specifically trends that have been observed during the pandemic in private equity and venture capital.

Market Insights is a recurring report providing capital allocators, investment managers, and industry participants with a bird's eye view of alternative markets through a macro lens. In each edition, PitchBook analysts provide key metrics that our research team tracks across private equity, venture capital, real estate, real assets, and debt markets. The report includes data on macroeconomics, public financial markets, private markets, demographics, and PitchBook's proprietary quantitative research.

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 Q3 2021 US Market Insights

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The market landscape



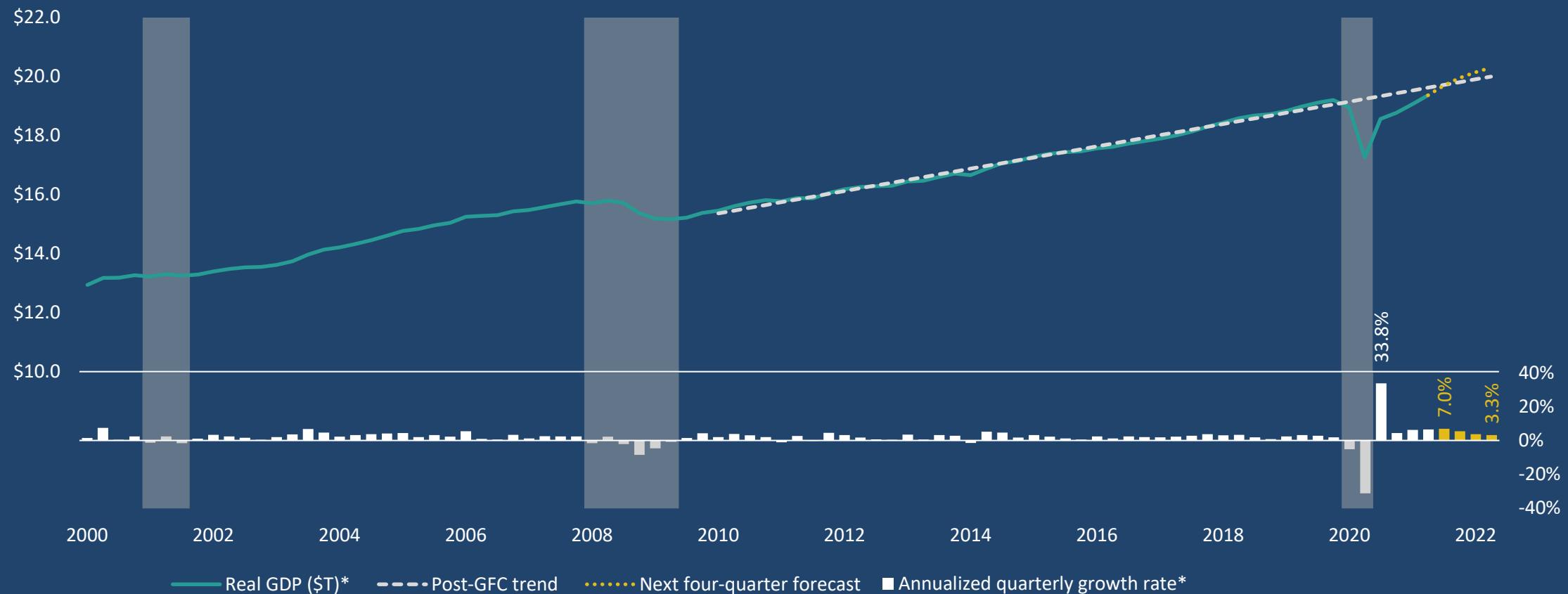
Key takeaways

- GDP growth forecasts for the US economy continue to show a full recovery back to the pre-pandemic trajectory by early 2022, though a close eye must be kept on COVID-19 variants.
- During the pandemic, consumer spending by category reversed some multidecade trends. Healthcare spending as a share of total household expenditures has fallen, along with restaurant spending, though the latter has rebounded with reopenings.
- The otherwise steady job gains slowed in August 2021, highlighted by continued weakness in retail trade. Logistics-related employment and professional/business services headline the net winners in the August jobs report.
- Driven by commodity price rises and logistics issues affecting the supply of a multitude of products including cars and apparel, inflation, as measured by the consumer price index (CPI), remains near 5%.
- The recent inflation readings have not yet translated to high Treasury rates; capital availability has compressed yields across PE, public equities, and corporate bonds.
- PE growth and VC funds have featured as the highest returners in private markets in 2020, driven by roaring stock markets and technology investments.



The post-COVID-19 recovery so far has been swift, with GDP forecasts for 2021 and 2022 expecting the economy to return to its pre-pandemic trend.

Real GDP growth compared with post-global-financial-crisis (GFC) trend



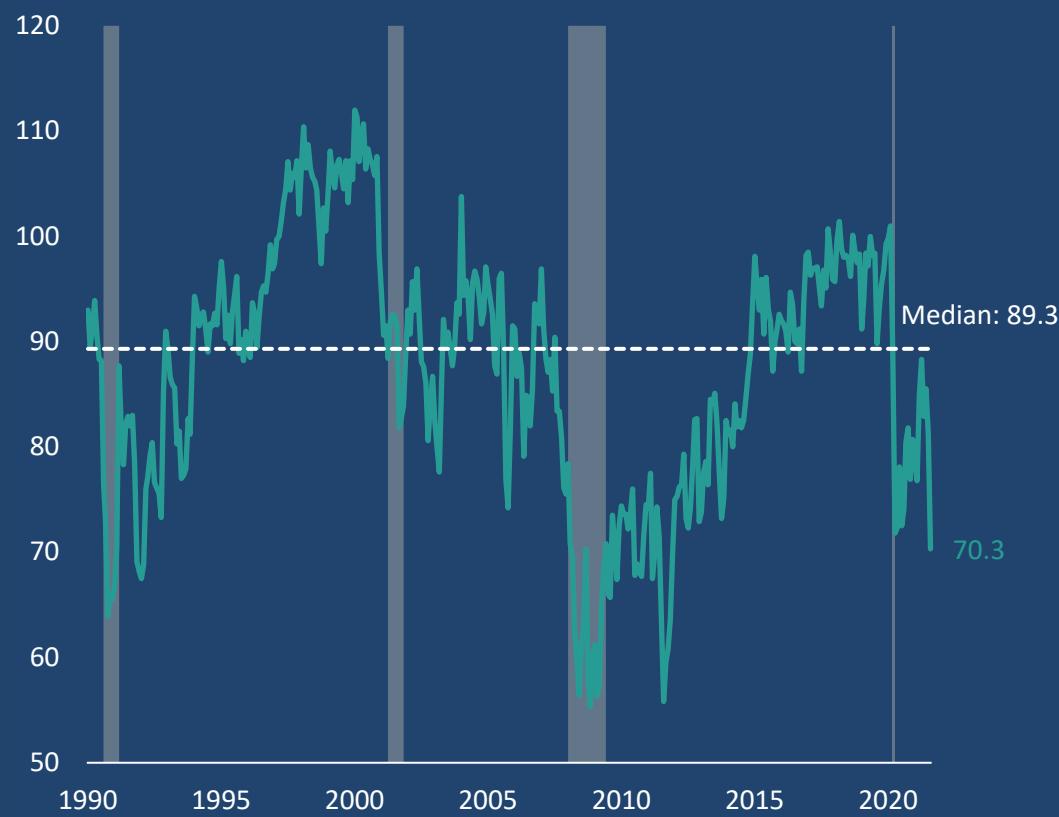
Source: Bureau of Economic Analysis; WSJ Economic Forecasting Survey | Geography: US

*As of June 30, 2021

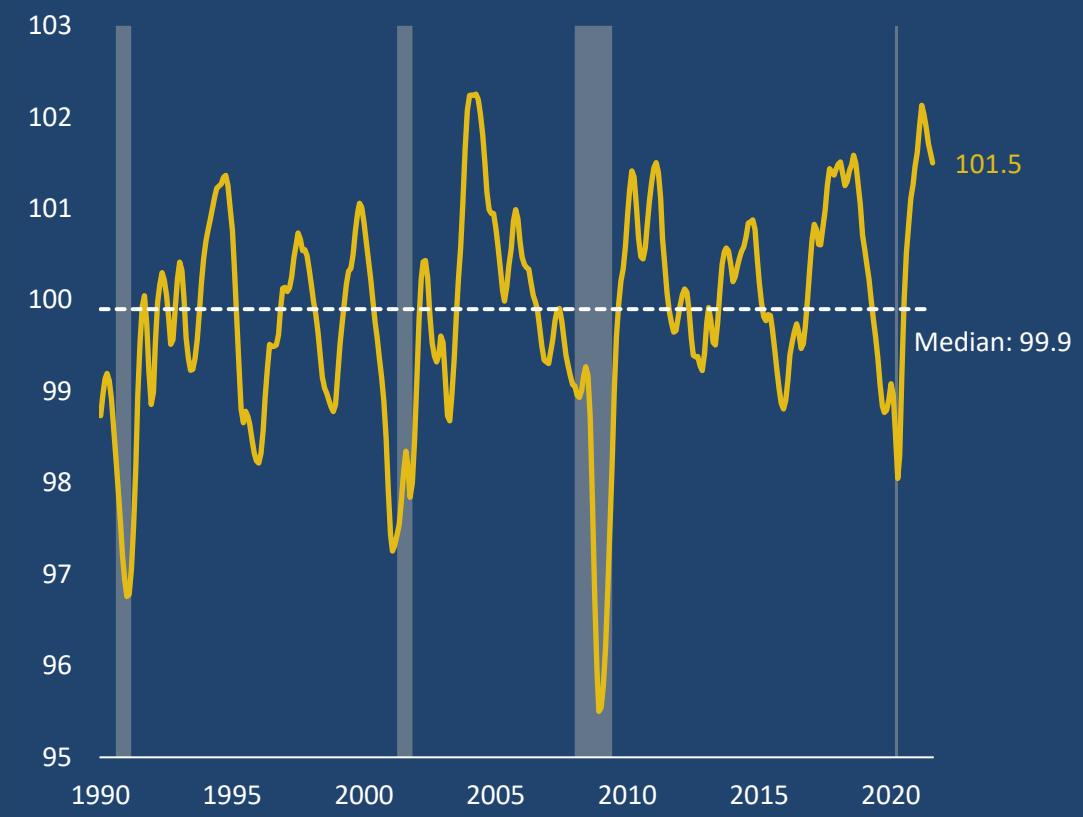


Consumer and business confidence rebounded quickly from the lows of March 2020, but the spread of the delta variant appears to have renewed consumer anxiety.

*University of Michigan Consumer Sentiment Index**



*OECD Business Confidence Index**



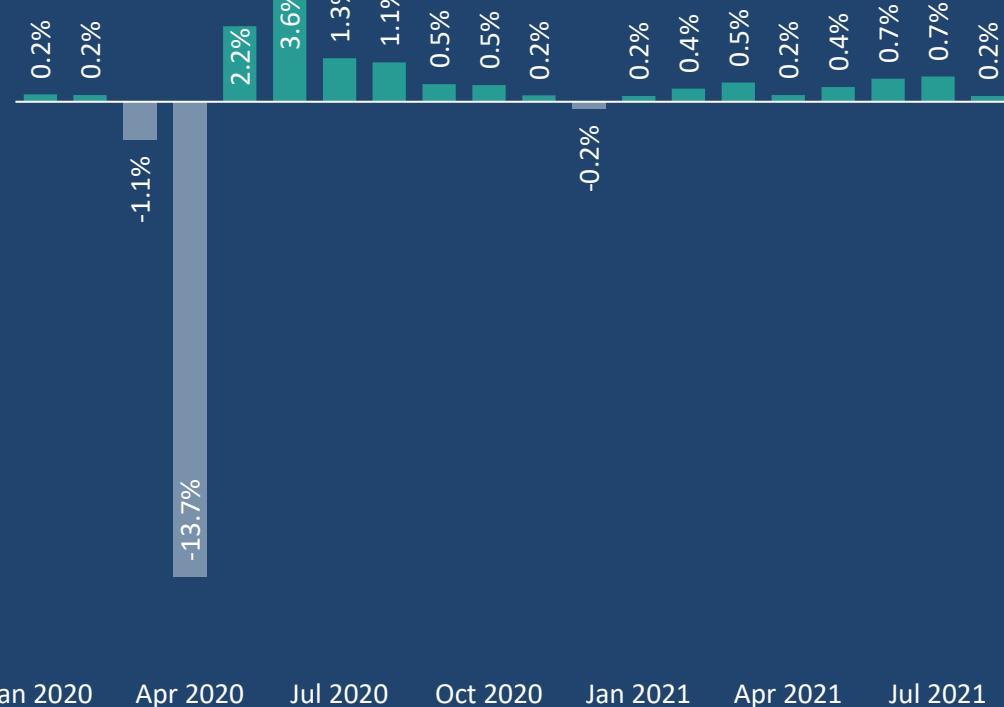
Source: University of Michigan, OECD | Geography: US

*As of August 31, 2021

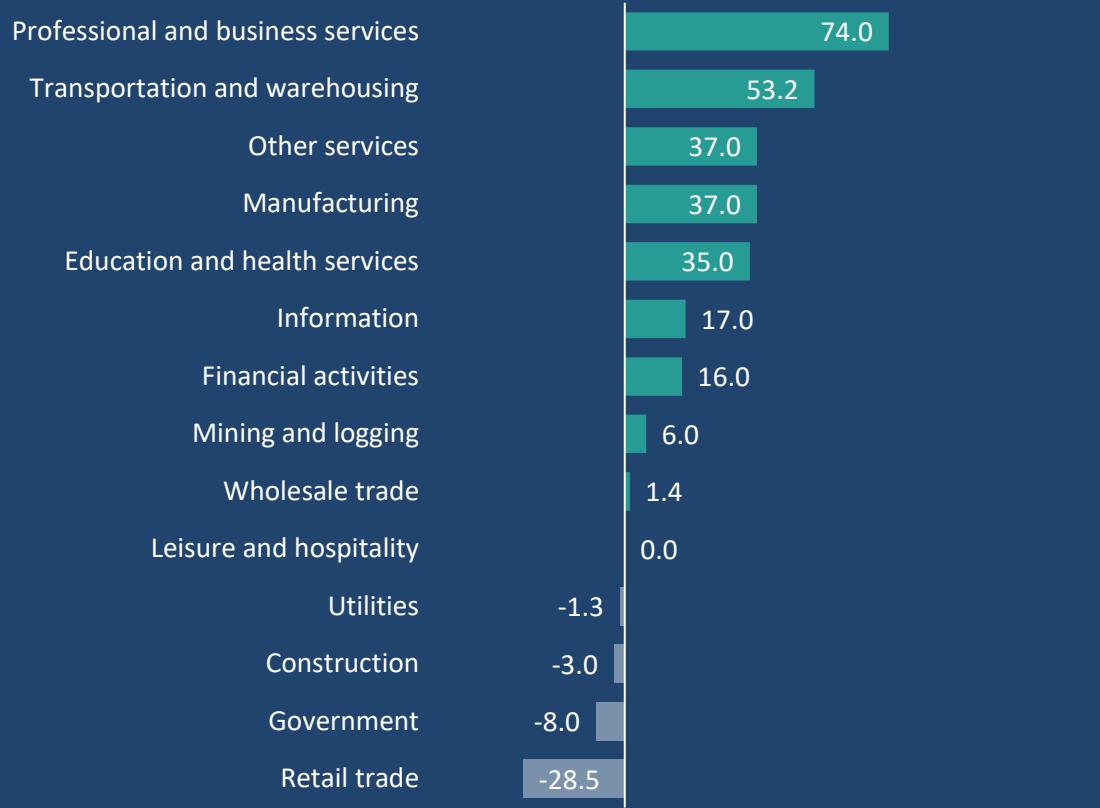


Employment has yet to fully recover as retail continues to be a laggard. However, transportation/warehousing-related employment has surged in the new economic environment.

*Change in nonfarm employment**



August 2021 employment gains and losses (in thousands) by industry



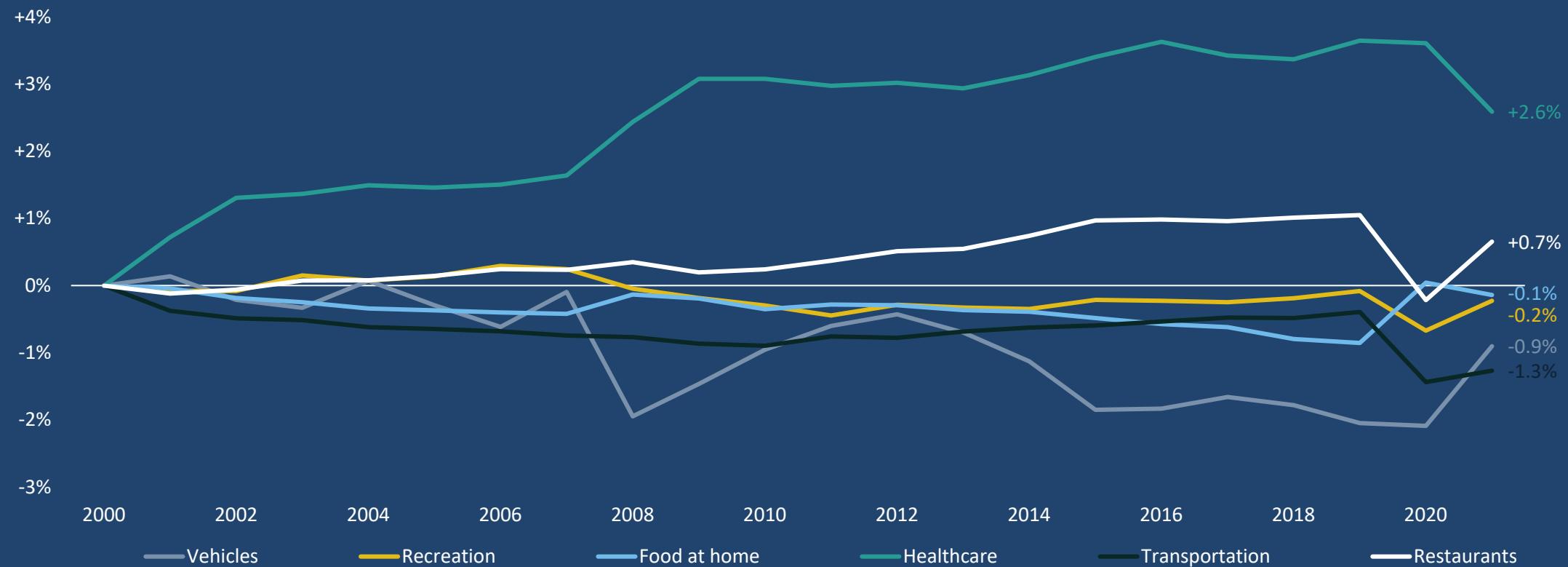
Source: Bureau of Labor Statistics | Geography: US

*As of August 31, 2021



Long-term trends in consumer spending have reversed during the pandemic. Most notably, healthcare spending has been down as elective operations have been restricted.

*Change in share of consumer expenditures of select categories**



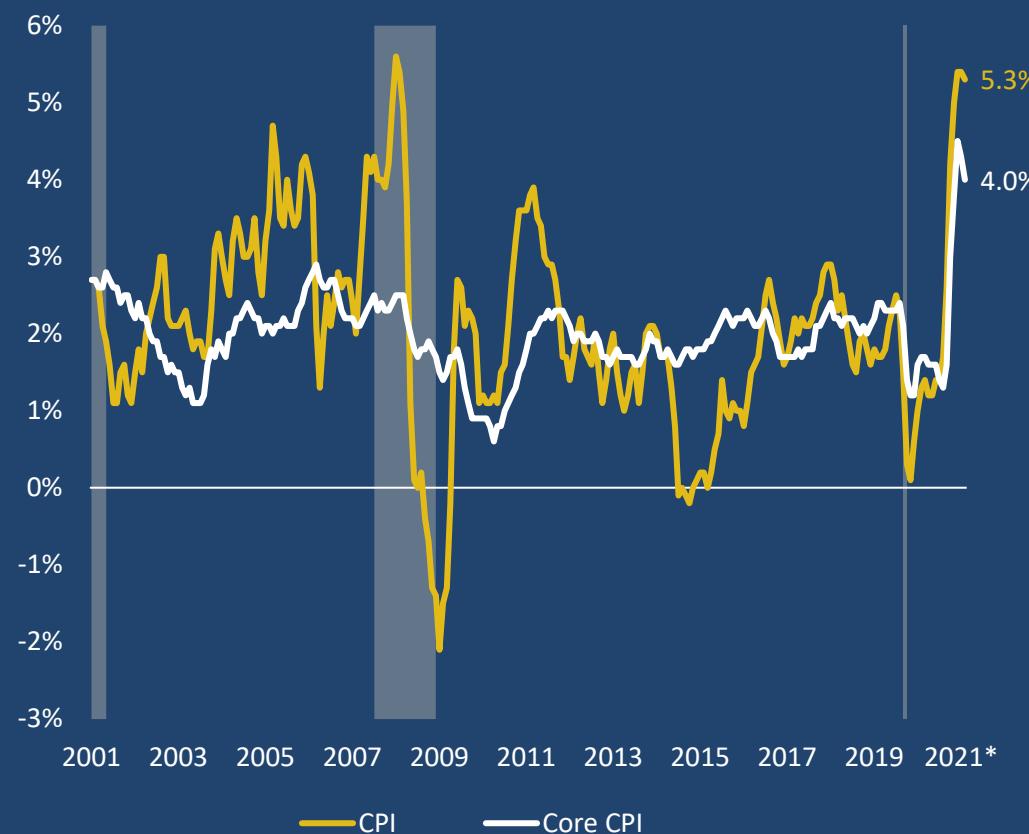
Source: Bureau of Economic Analysis | Geography: US

*As of June 30, 2021

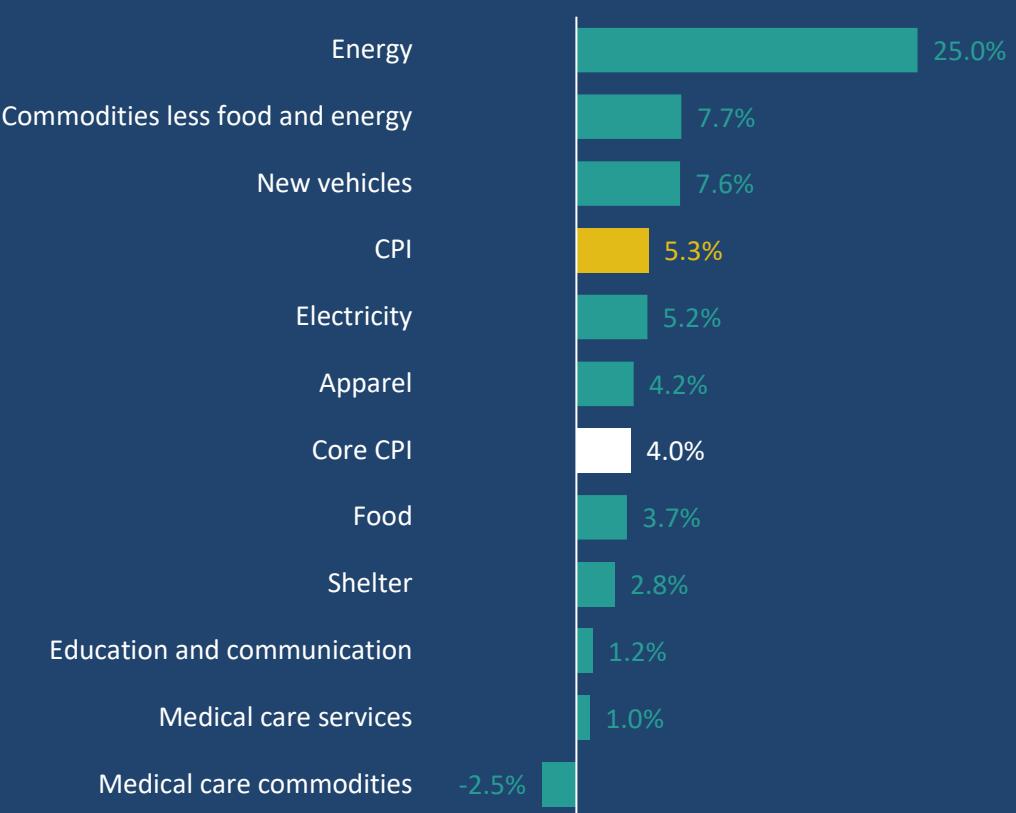


A handful of sectors have driven the inflation increase. Energy prices have spiked due to lockdowns, and supply chain issues have caused both new and used car prices to jump.

Consumer Price Index



Inflation by category in August 2021



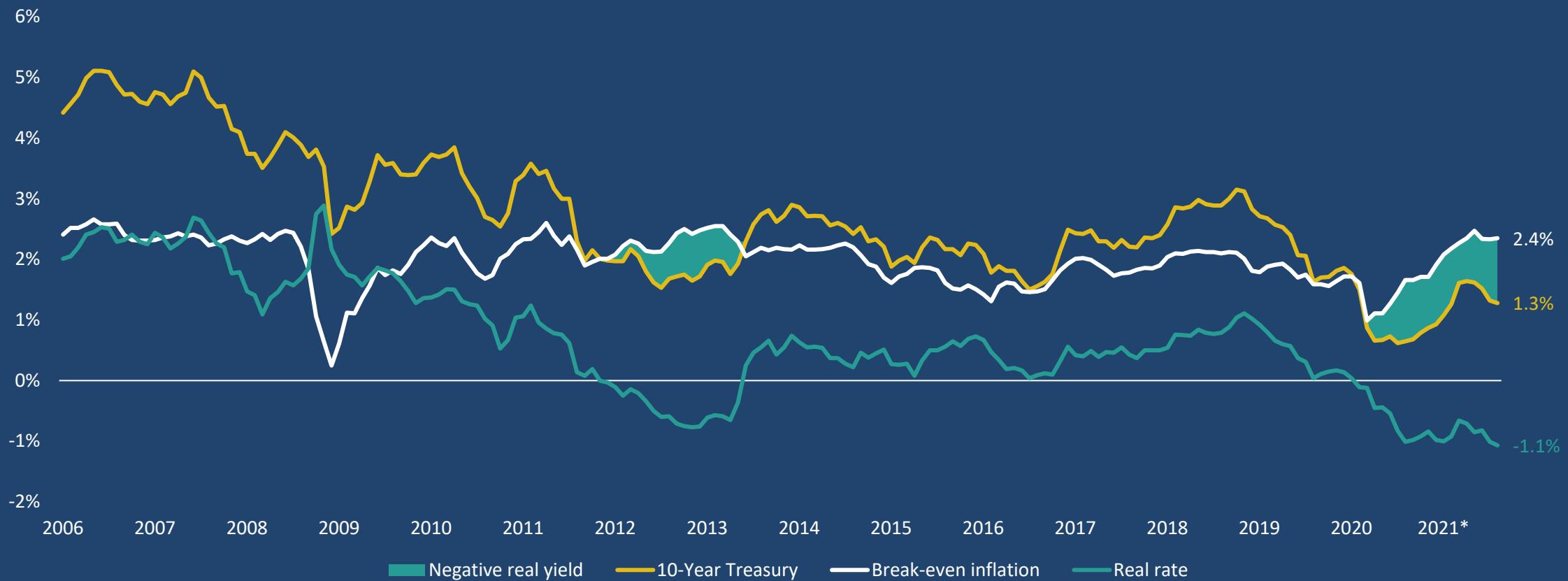
Source: Bureau of Labor Statistics | Geography: US

*As of August 31, 2021



The TIPS-implied (Treasury Inflation-Protected Securities) inflation rate remains subdued despite recent CPI readings. Still, real rates dipped negative in 2020 and have remained so into 2021.

Ten-year Treasury rates versus real rates



Source: FRED | Geography: US

*As of August 31, 2021

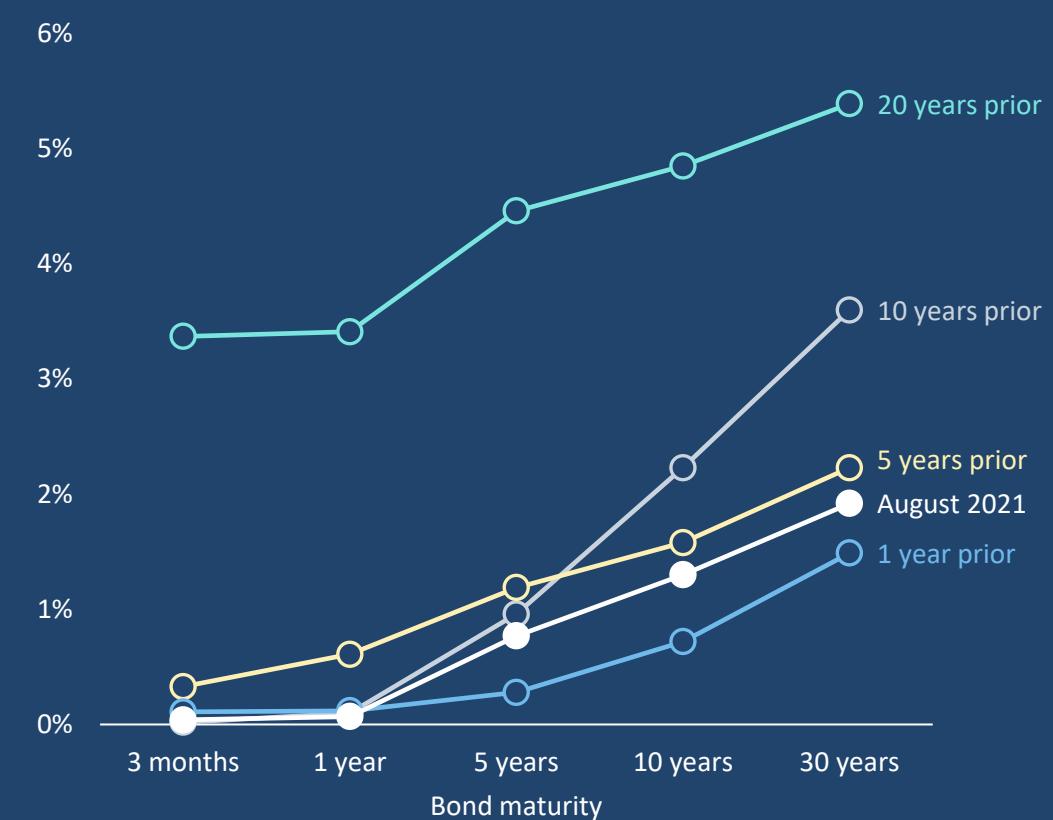


The hunt for yield continues to challenge allocators, and the yield curve remains flat by historical standards...

*US pension plan return assumptions versus ten-year Treasury**



Treasury market yield curve



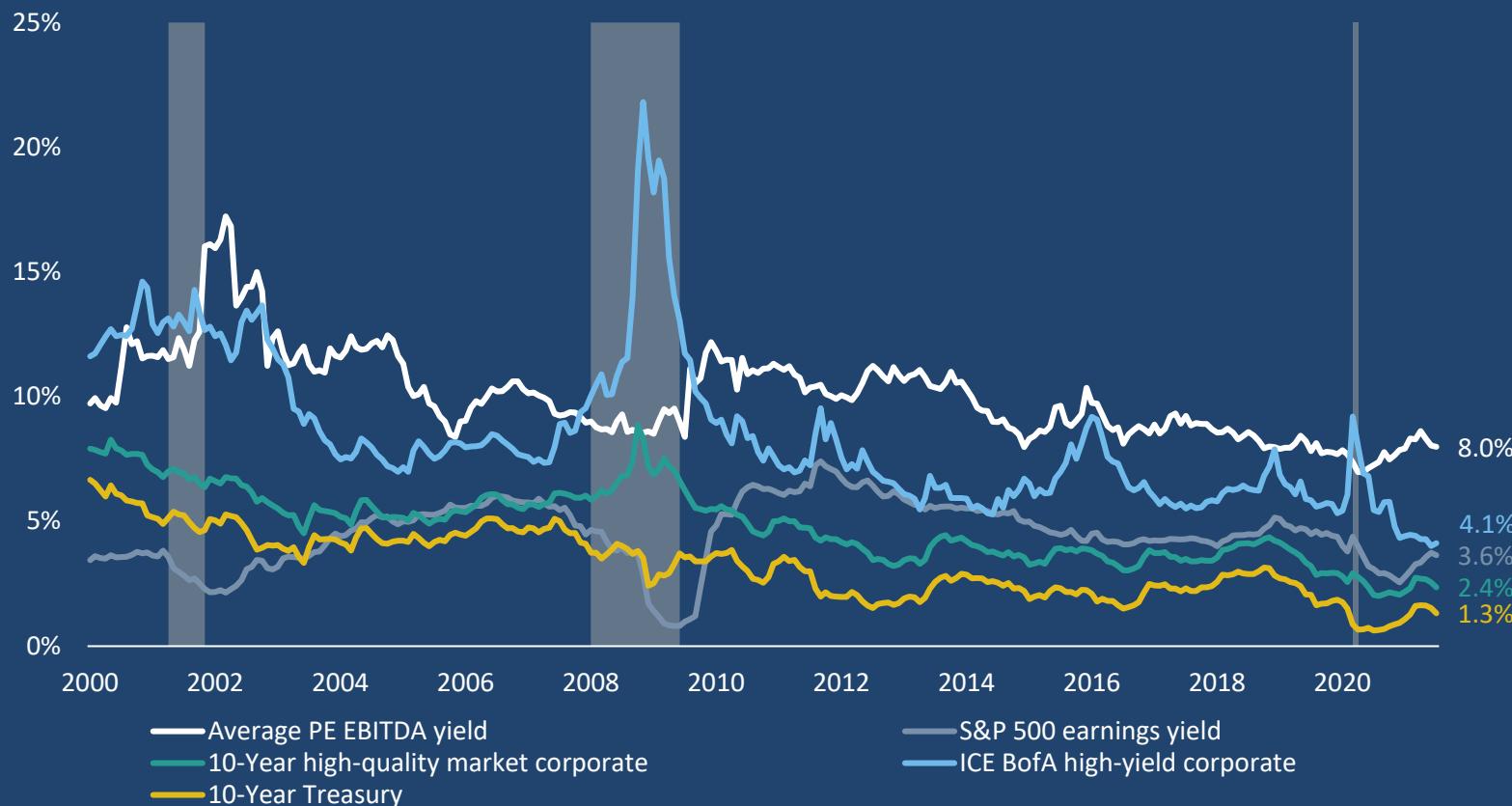
Source: FRED, National Association of State Retirement Administrators | Geography: US

*As of August 31, 2021



...with lofty asset prices driving down yields across markets, thus making alternative assets more attractive...

*Yields on select asset classes**



Data definitions:

- S&P 500 earnings yield: the inverse of the trailing 12-month price-to-earnings multiple
- High-quality market corporate: the yield on high-quality market corporate bonds ("A" or higher ratings)
- ICE BofA high-yield corporate: the yield on high-yield (below investment-grade) corporate bonds as published by ICE and Bank of America
- Average PE EBITDA yield: the inverse of the trailing 12-month average EV/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 allocation decisions.

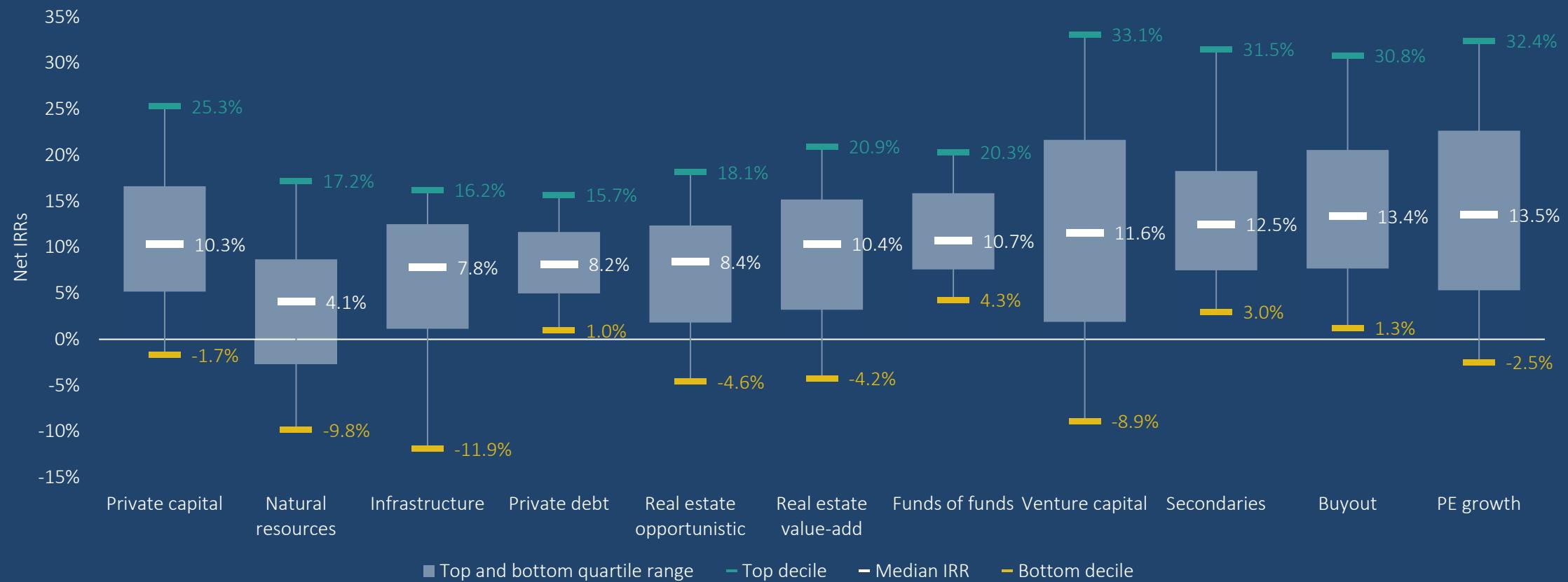
Source: PitchBook, FRED, Robert Shiller | Geography: US

*As of July 31, 2021



...but allocators must balance risk and reward. Historical returns offer an important starting point for an allocator evaluating the private markets.

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



Source: PitchBook | Geography: US

*As of December 31, 2020



Pooled one-year horizon IRRs: PE growth and VC continue to lead the way over the near term.

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*	15-year horizon IRR*
Real estate value-add 90.7%	Infrastructure 44.1%	Natural resources 1.9%	Private debt 24.9%	Secondaries 22.3%	Secondaries 18.4%	Private debt 16.9%	Venture capital 20.8%	Venture capital 20.6%	Buyout 14.3%	Natural resources 15.9%	Buyout 19.5%	PE growth 20.5%	PE growth 17.3%	PE growth 36.6%	PE growth 14.1%
PE growth 37.8%	Secondaries 29.5%	Secondaries -7.6%	Buyout 8.7%	Real estate opportunistic 19.9%	Real estate opportunistic 16.7%	Buyout 14.8%	Buyout 20.4%	Funds of funds 17.3%	Real estate value-add 14.2%	Buyout 14.1%	PE growth 19.2%	Venture capital 19.3%	Venture capital 16.6%	Venture capital 32.4%	Buyout 12.6%
Secondaries 33.1%	Real estate opportunistic 28.4%	Infrastructure -9.3%	PE growth 4.7%	Buyout 18.7%	Natural resources 16.7%	Real estate opportunistic 13.8%	Real estate value-add 19.2%	Infrastructure 16.6%	Venture capital 13.3%	PE growth 11.0%	Secondaries 16.5%	Funds of funds 15.9%	Buyout 15.3%	Buyout 16.6%	Venture capital 11.1%
Real estate opportunistic 30.2%	Buyout 23.7%	Venture capital -11.3%	Natural resources 2.5%	Natural resources 18.2%	Real estate value-add 12.4%	Private capital 13.2%	Real estate opportunistic 19.0%	Buyout 15.9%	Real estate opportunistic 12.6%	Real estate opportunistic 11.0%	Private capital 15.3%	Secondaries 15.8%	Secondaries 13.8%	Funds of funds 16.0%	Secondaries 10.9%
Natural resources 29.0%	Private capital 19.5%	PE growth -12.8%	Private capital 2.5%	Private debt 17.1%	Venture capital 11.4%	PE growth 12.8%	Private capital 17.2%	PE growth 15.2%	Secondaries 11.9%	Private capital 11.0%	Infrastructure 13.1%	Real estate value-add 13.7%	Funds of funds 11.5%	Private capital 12.0%	Private capital 10.6%
Private debt 25.2%	Funds of funds 16.5%	Funds of funds -14.5%	Funds of funds 1.5%	Private capital 17.0%	PE growth 11.3%	Secondaries 11.8%	Private debt 15.6%	Real estate opportunistic 14.9%	PE growth 11.8%	Private debt 9.9%	Funds of funds 12.6%	Buyout 11.1%	Private capital 10.6%	Infrastructure 9.8%	Funds of funds 10.6%
Private capital 24.9%	Natural resources 14.9%	Private capital -18.9%	Venture capital -0.5%	PE growth 16.8%	Private capital 9.8%	Real estate value-add 10.7%	Funds of funds 15.5%	Private capital 14.8%	Funds of funds 11.1%	Real estate value-add 9.1%	Real estate opportunistic 11.9%	Private capital 10.8%	Real estate value-add 9.9%	Real estate opportunistic 3.0%	Private debt 8.7%
Buyout 24.4%	Private debt 14.7%	Buyout -20.3%	Infrastructure -7.1%	Funds of funds 13.8%	Buyout 9.6%	Funds of funds 10.0%	PE growth 12.8%	Real estate value-add 14.8%	Private capital 10.3%	Infrastructure 8.0%	Real estate value-add 11.1%	Infrastructure 8.8%	Private debt 7.7%	Secondaries 2.3%	Real estate opportunistic 8.4%
Funds of funds 22.4%	Venture capital 13.9%	Real estate opportunistic -21.8%	Secondaries -11.2%	Infrastructure 11.4%	Funds of funds 9.0%	Infrastructure 7.5%	Natural resources 8.4%	Secondaries 14.0%	Infrastructure 9.8%	Funds of funds 6.4%	Private debt 10.8%	Private debt 8.2%	Real estate opportunistic 5.2%	Private debt 1.7%	Infrastructure 7.3%
Infrastructure 15.4%	PE growth 1.5%	Real estate value-add -25.7%	Real estate opportunistic -40.1%	Venture capital 11.2%	Infrastructure 5.6%	Venture capital 7.4%	Secondaries 7.3%	Private debt 8.5%	Private debt 3.7%	Secondaries 6.4%	Natural resources 10.7%	Real estate opportunistic 8.1%	Infrastructure 2.4%	Real estate value-add -0.8%	Real estate value-add 4.4%
Venture capital 13.2%	Real estate value-add -8.9%	Private debt -31.8%	Real estate value-add -44.8%	Real estate value-add -0.1%	Private debt 4.2%	Natural resources 6.6%	Infrastructure 1.3%	Natural resources 1.5%	Natural resources -18.7%	Venture capital -0.5%	Venture capital 9.8%	Natural resources 5.4%	Natural resources -9.4%	Natural resources -17.8%	Natural resources 1.4%

Source: PitchBook | Geography: US

*As of December 31, 2020



A diversified portfolio requires data on strategy return correlations. One observation is the close connection between PE growth and VC.

*Correlation matrix of quarterly returns (Q1 2006 to Q1 2021 preliminary results)**

	Buyout	PE growth	Real estate opportunistic	Real estate value-add	Infrastructure	Venture capital	Natural resources	Private debt	Funds of funds	Secondaries
Buyout	1.00									
PE growth	0.79	1.00								
Real estate opportunistic	0.51	0.39	1.00							
Real estate value-add	0.30	0.39	0.45	1.00						
Infrastructure	0.35	0.21	0.22	0.28	1.00					
Venture capital	0.75	0.79	0.45	0.33	0.27	1.00				
Natural resources	0.44	0.38	0.25	0.12	0.22	0.25	1.00			
Private debt	0.71	0.62	0.27	0.22	0.19	0.46	0.48	1.00		
Funds of funds	0.79	0.74	0.45	0.44	0.35	0.79	0.36	0.65	1.00	
Secondaries	0.48	0.41	0.63	0.39	0.31	0.44	0.42	0.39	0.58	1.00

The correlation matrix is calculated based on the quarterly returns of each asset class from Q1 2006 to Q1 2021 (see more details on quarterly returns in [PitchBook's Benchmarks report](#)).

The quarterly return calculation:

$$\frac{(\text{Ending NAV} + \text{Distributions} - \text{Contributions in quarter})}{(\text{Beginning NAV})}$$

Source: PitchBook | Geography: US

*As of March 31, 2021



Equity markets



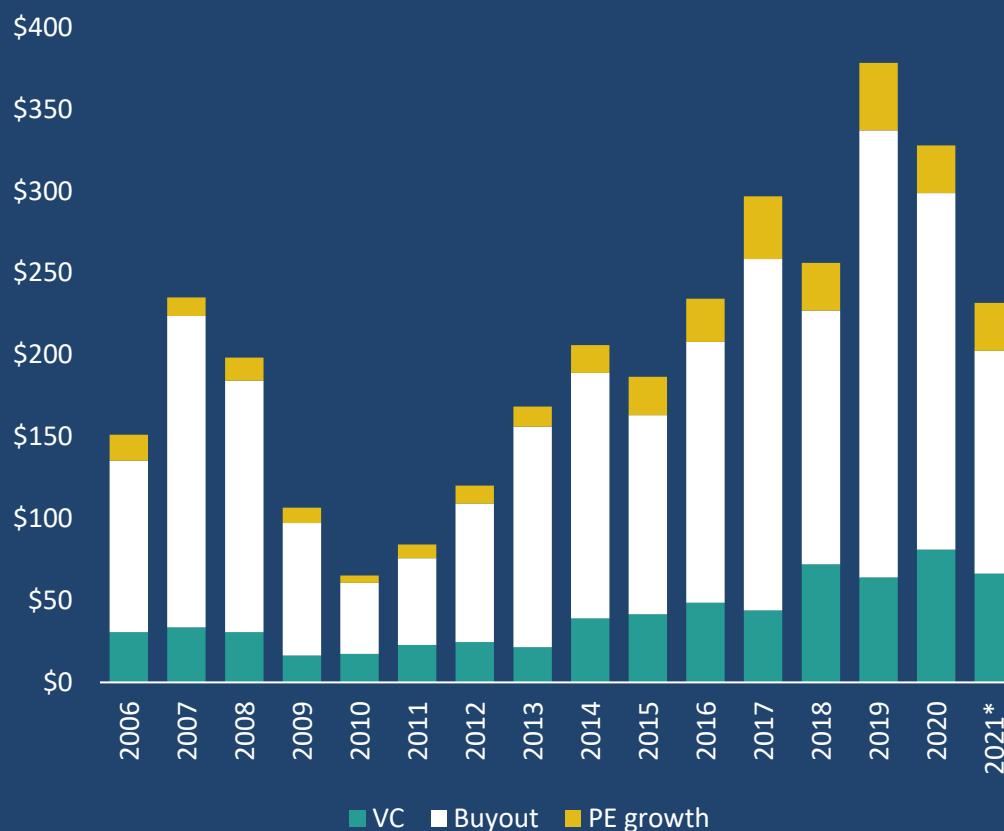
Key takeaways

- Capital raising for buyout and PE growth funds cooled off slightly from the peak in 2019, while venture funds had the strongest year on record in 2020 and are tracking similarly in 2021.
- Meanwhile, mega-deal activity in buyout, PE growth, and VC has rebounded from early-2020 lows. PE growth and venture have registered several monthly highs in total volume for mega-transactions.
- Venture deal activity has continued to feed off the record dry powder, leading to total VC fund assets hitting an all-time high of \$471.7 billion at the end of 2020.
- The high degree of capital availability has also created the most startup-friendly investing environment of the past 15+ years, as measured by PitchBook's [VC Dealmaking Indicator](#).
- The US unicorn factory continues to churn out more of these no-longer-rare beasts: nearly one per day on average for the last year.
- The macro environment in 2021 has been moderately positive for private equity, as indicated by PitchBook's [PE Barometer](#).
- The climb of EV/EBITDA buyout multiples resumed after a lull in early 2020, though the relative attractiveness of buyout deals compared with high-yield corporate bonds and S&P 500 earnings yields is within norms.
- Trends in sustainable investing have translated to institutional capital funneling into 4- and 5-star rated public US mutual funds and private impact funds.

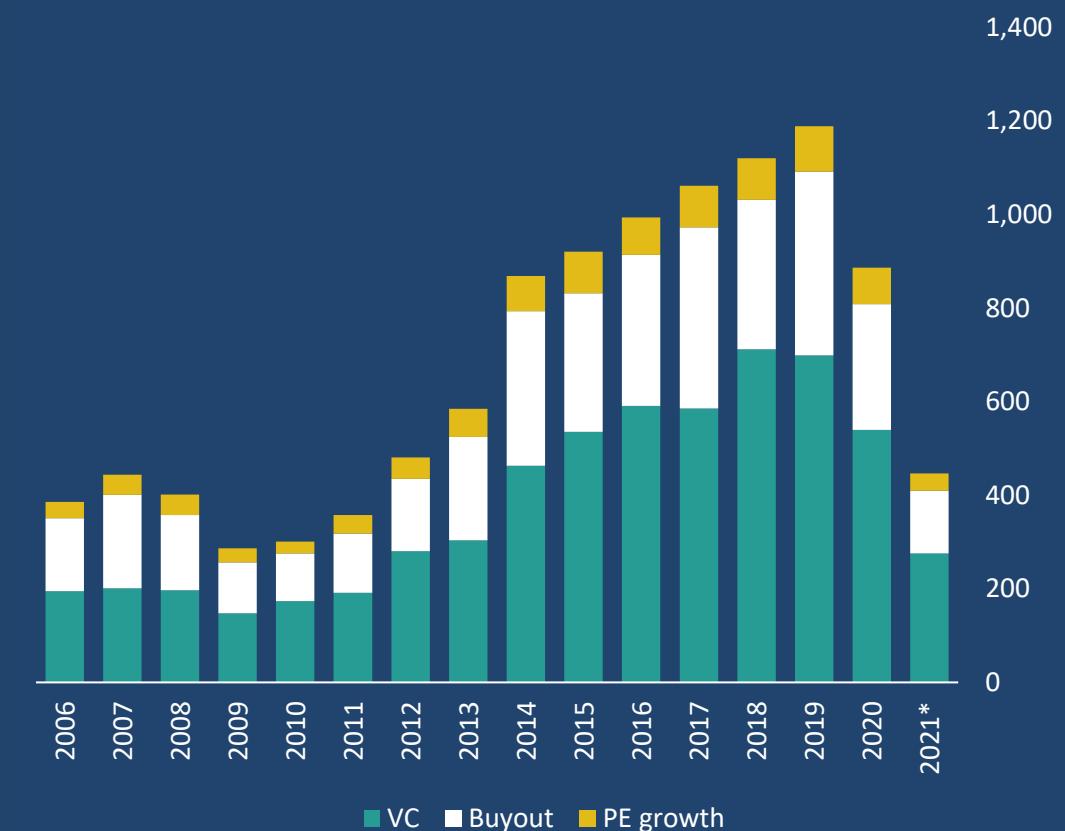


Fund counts in buyout, PE growth, and venture have ticked down during the pandemic, though total capital raised remains near or at historically high levels.

Capital raised (\$B) by select strategies



Funds closed (#) by select strategies



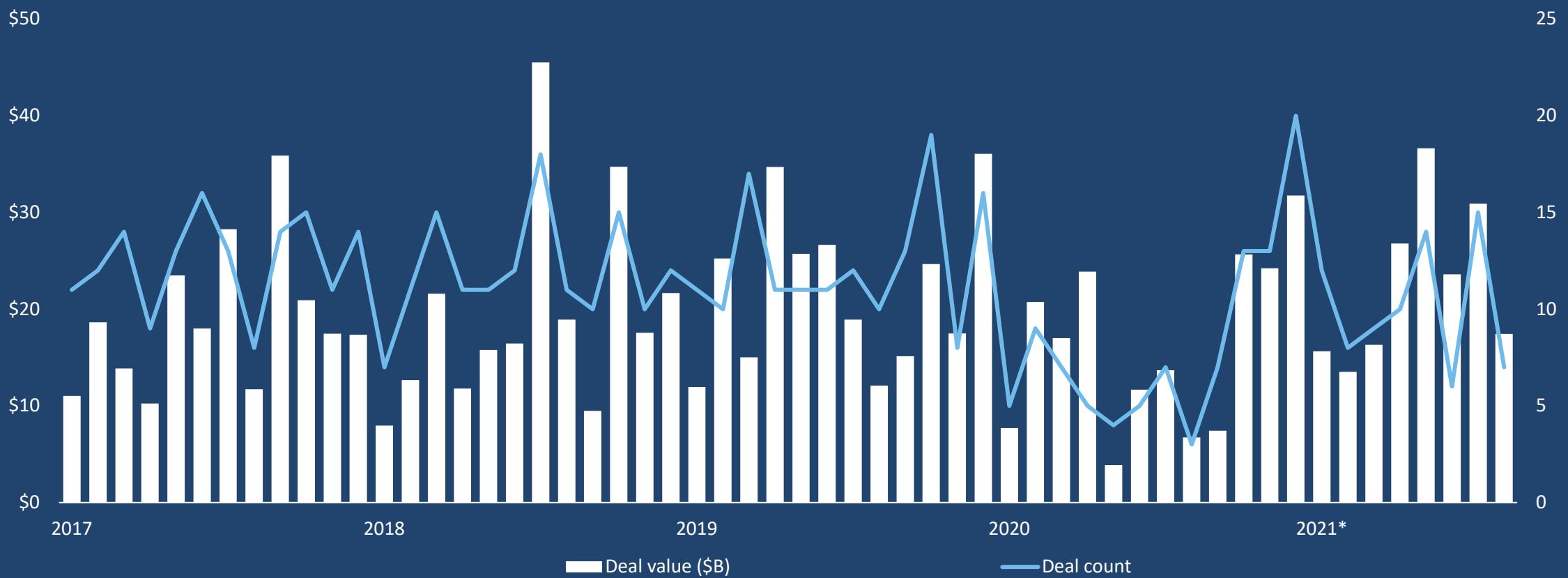
Source: PitchBook | Geography: US

*As of June 30, 2021



Mega-buyout deals slowed early in the pandemic but have quickly regained momentum during the recovery...

Mega buyout deals (\$500 million+ deal size) by month



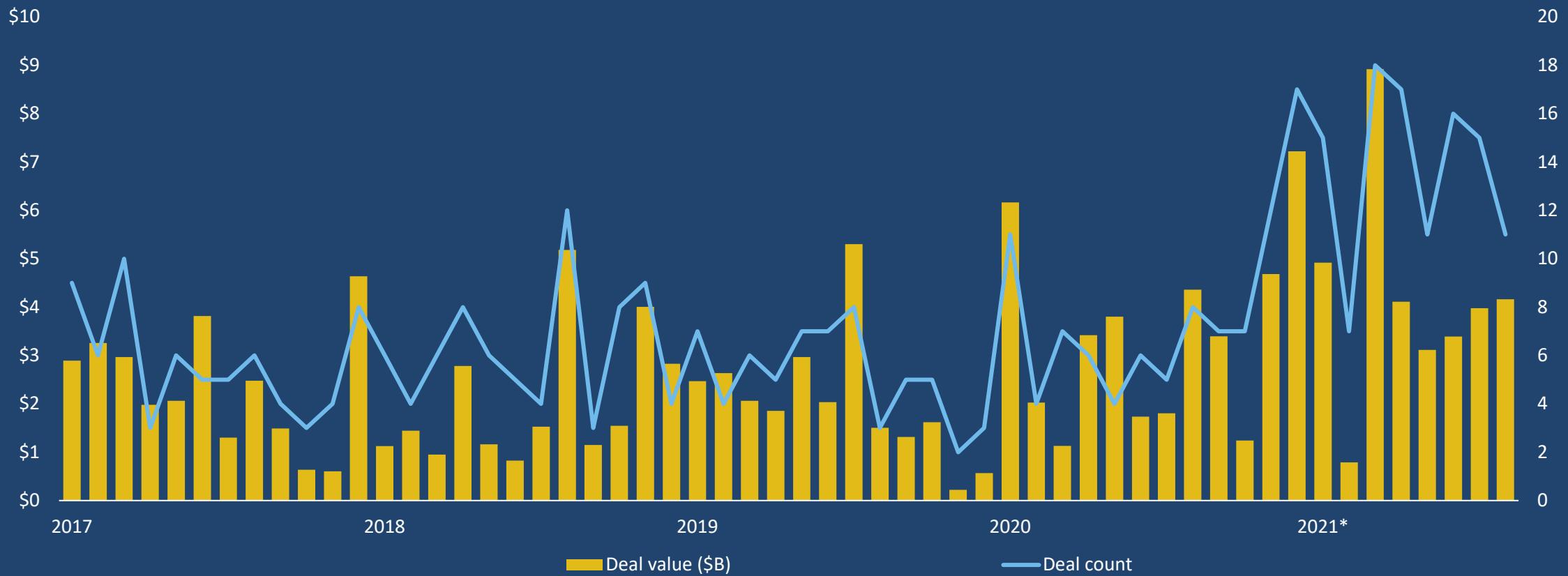
Source: PitchBook | Geography: US

*As of August 31, 2021



...and mega PE growth deals are showing a similar uptick in activity...

Monthly mega PE growth deals (\$100 million+ deal size)



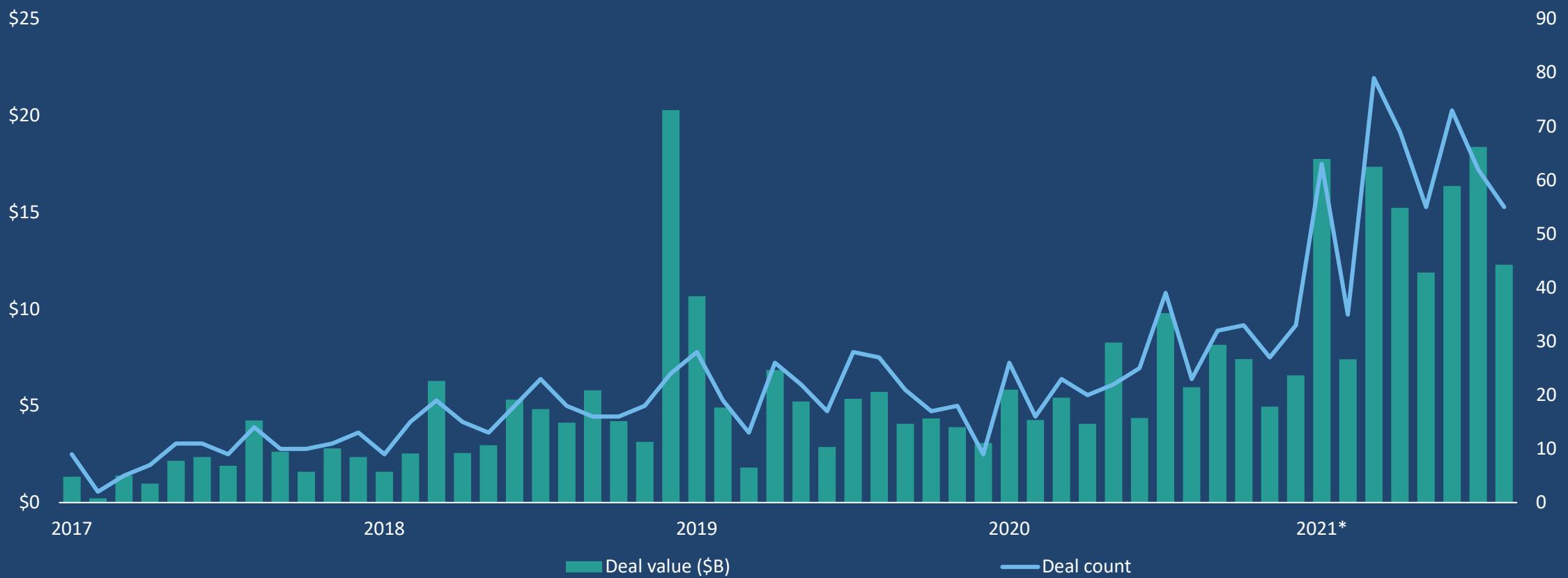
Source: PitchBook | Geography: US

*As of August 31, 2021



...along with startup mega-deals, with venture consistently seeing near-record volumes.

Monthly mega VC deals (\$100 million+ deal size)



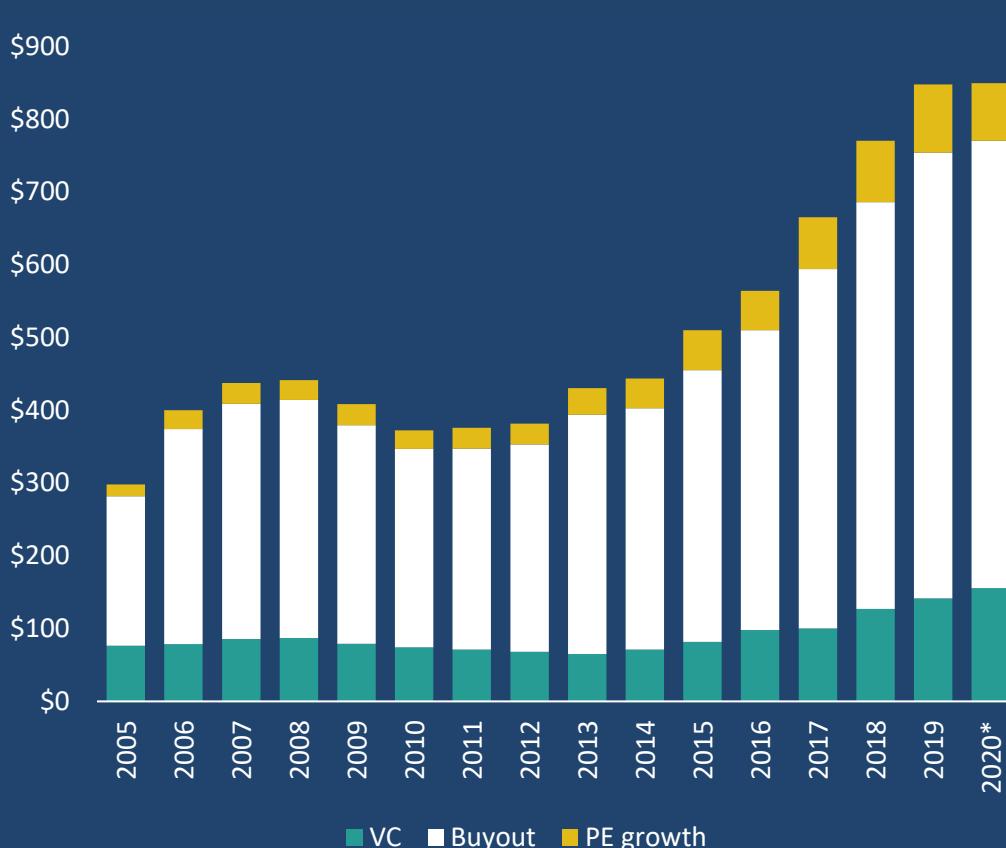
Source: PitchBook | Geography: US

*As of August 31, 2021



VC, PE growth, and buyout fund dry powder are at record levels. Venture specifically had \$155.6 billion at the ready at the end of 2020 and more than \$470 billion in fund portfolio assets.

Dry powder (\$B) by strategy



Venture capital dry powder and NAV (\$B)



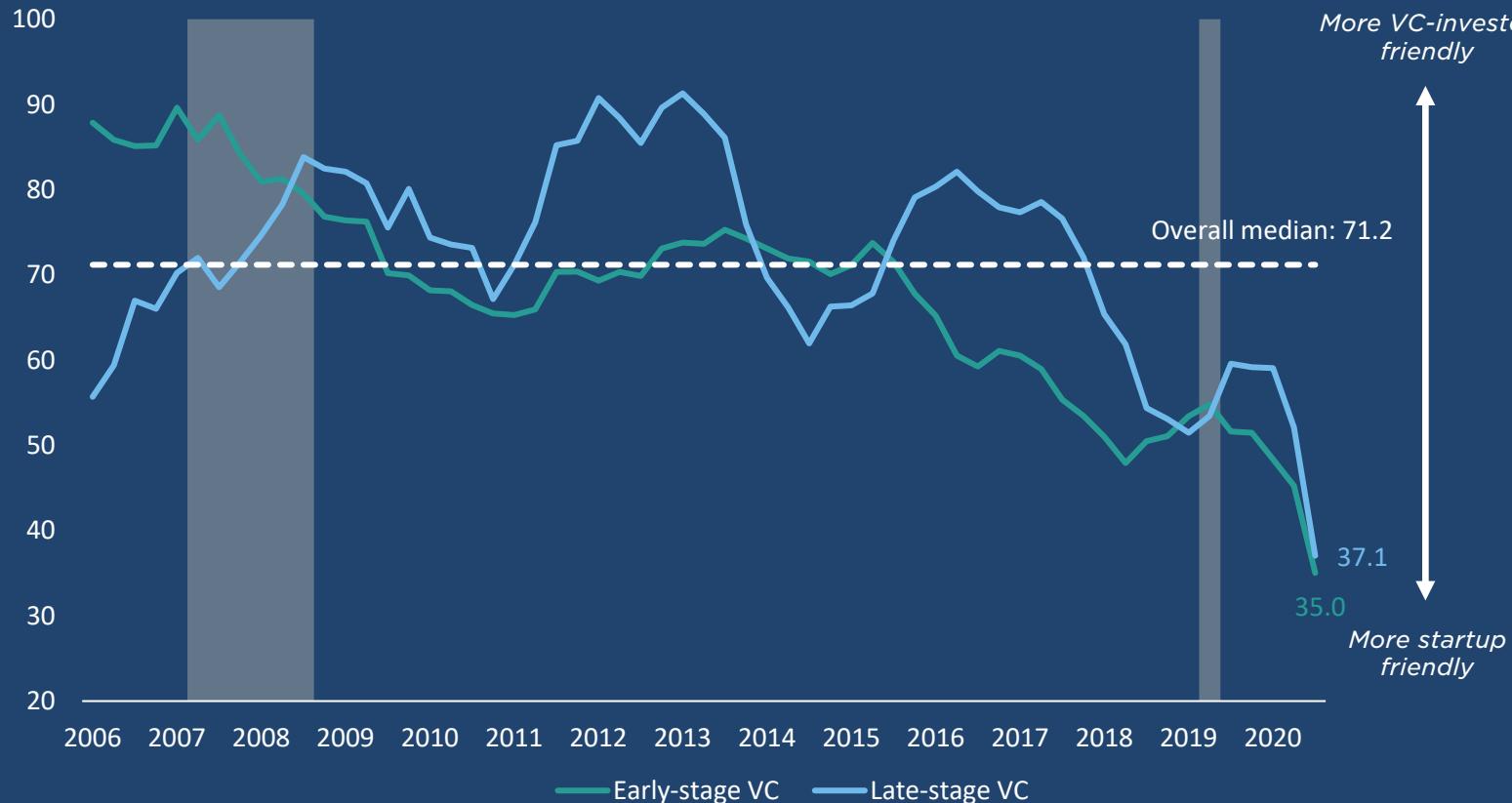
Source: PitchBook | Geography: US

*As of December 31, 2020



Record fundraising and the entrance of nontraditional investors has led to a market that is highly favorable to startups.

*PitchBook VC Dealmaking Indicator**

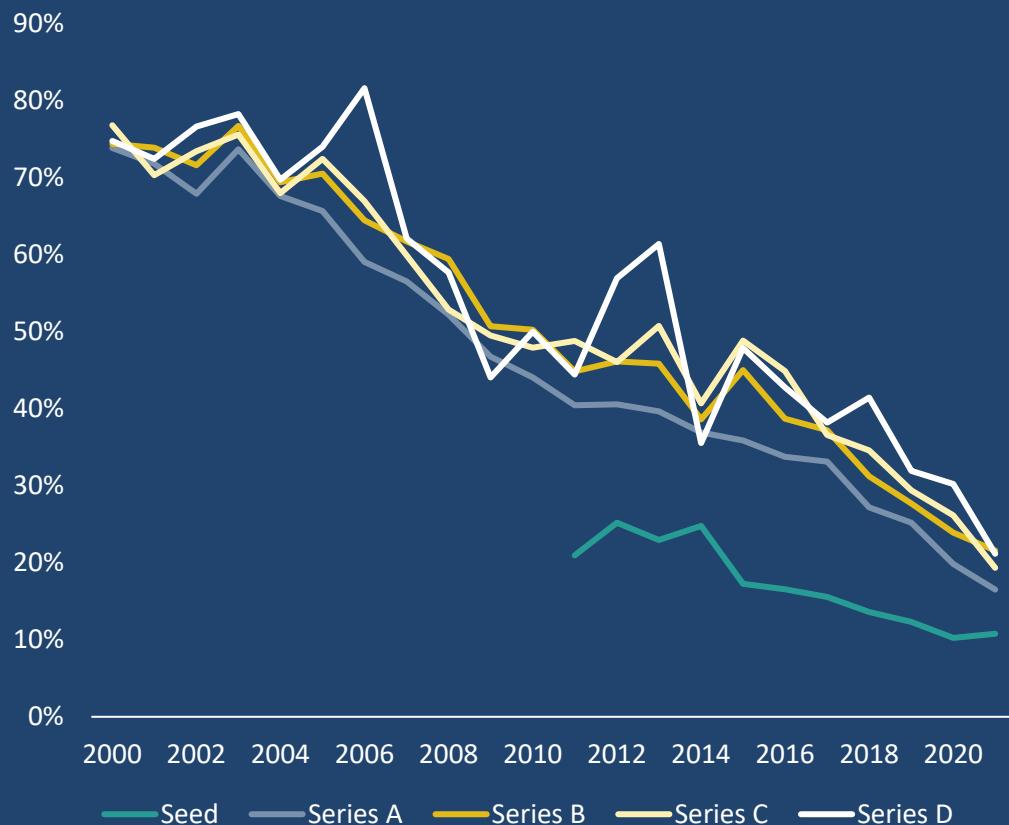


A full breakdown of the methodology and analysis can be found in our [VC Dealmaking Indicator report](#).

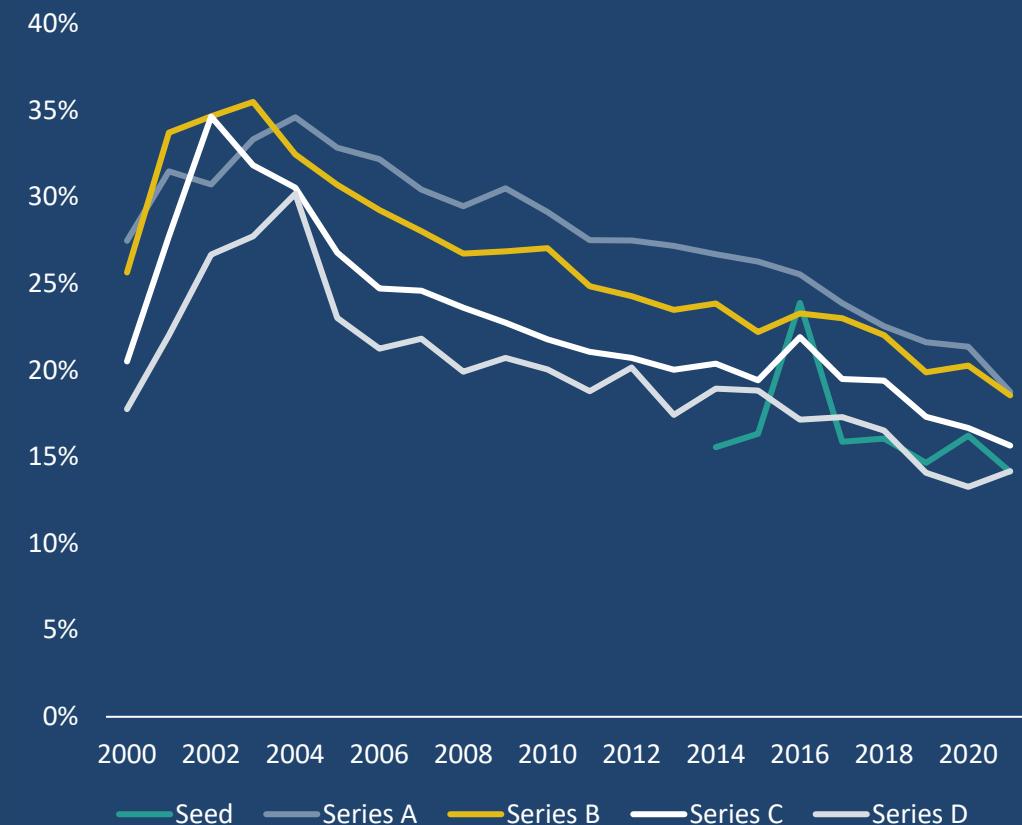


Deal term trends have also favored startups, with redemption rights waning, and the average percentage acquired by VC investors has declined despite rising deal sizes.

*Proportion of VC deals with redemption rights negotiated by series**



*Average ownership VCs acquired by series**



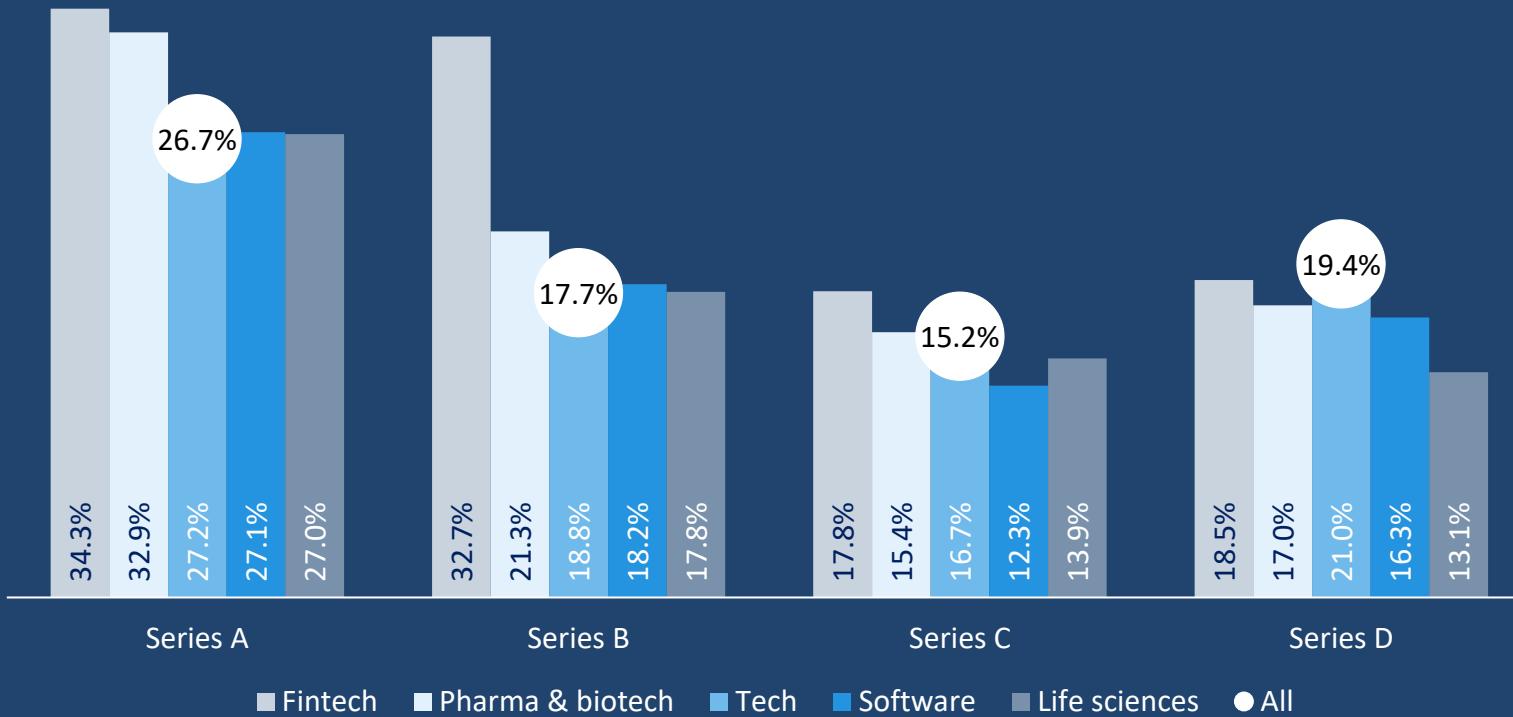
Source: PitchBook | Geography: US

*As of June 30, 2021



Early-stage venture offers the biggest home-run potential, despite higher failure rates. Within verticals, the differences are even starker.

*Returns by series and company vertical**



Source: PitchBook | Geography: US

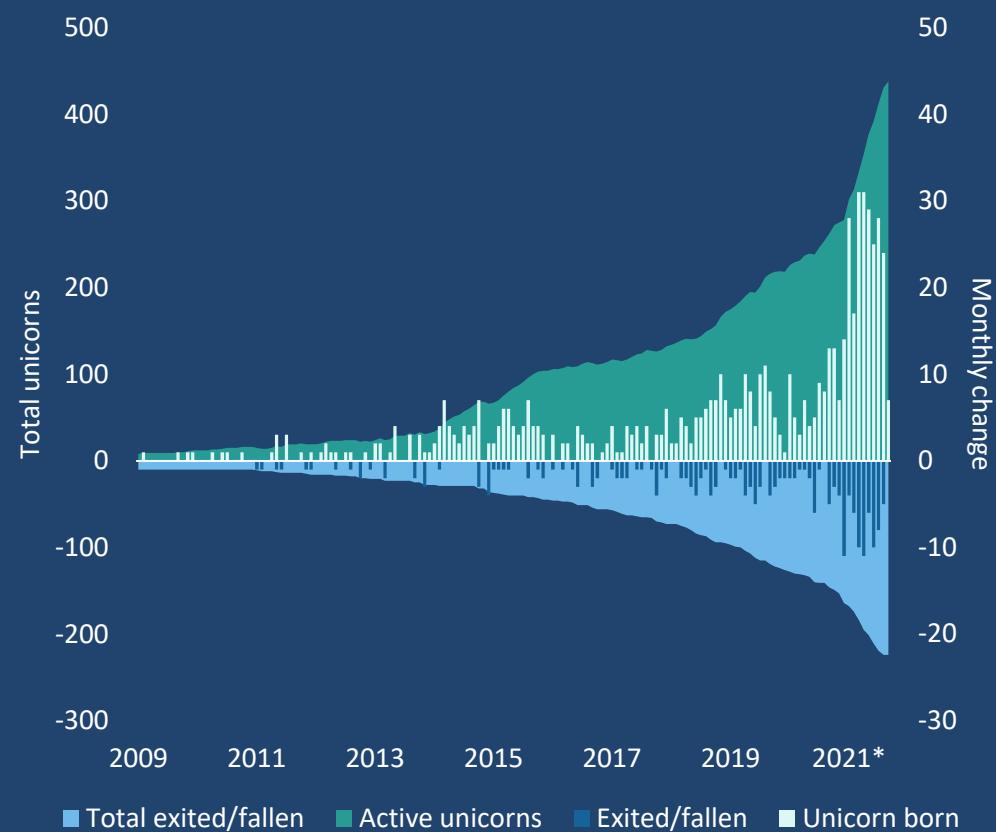
*As of August 5, 2021

A full breakdown of the analysis on returns by series can be found in our [recently published report](#). The analysis presented is our third iteration of the topic. To enable richer analysis of these companies' incoming and outgoing capital, we added the ability to assess the success or failure of startups in terms of capital rather than by company counts. Analyzing solely by the number of companies obscured the measure of scale via deal sizes in VC investing.

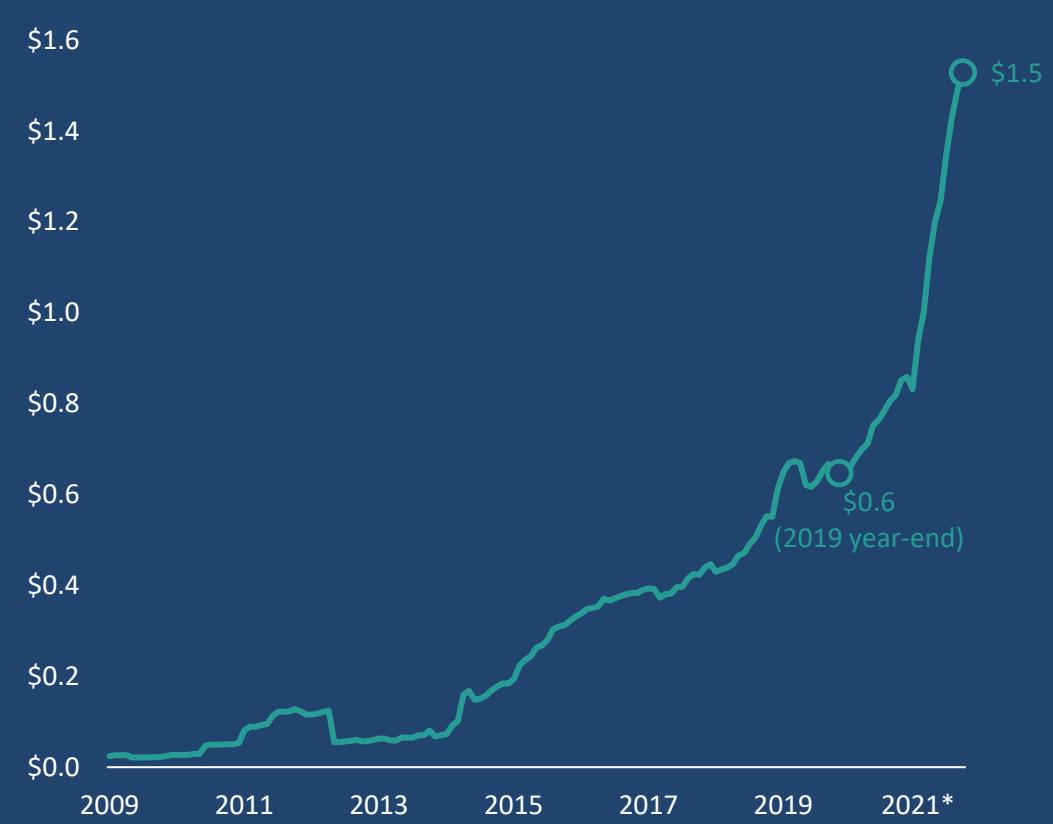


Unicorns are no longer a rarity in the US, with aggregate valuations at \$1.5 trillion and 25 to 30 unicorns minted per month on average over the last year.

Unicorn creation rate and monthly change (#)



Unicorn aggregate valuations (\$T)



Source: PitchBook | Geography: US

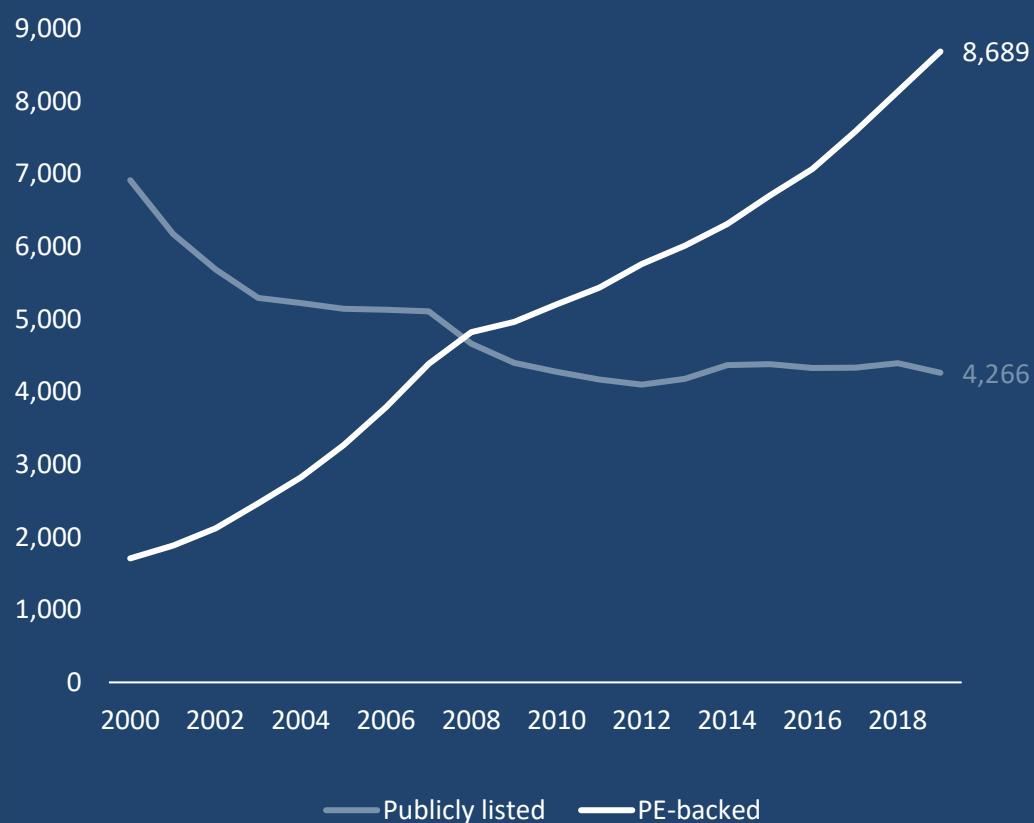
*As of September 7, 2021

Note: Fallen unicorns are companies with a valuation that fell below \$1.0 billion.

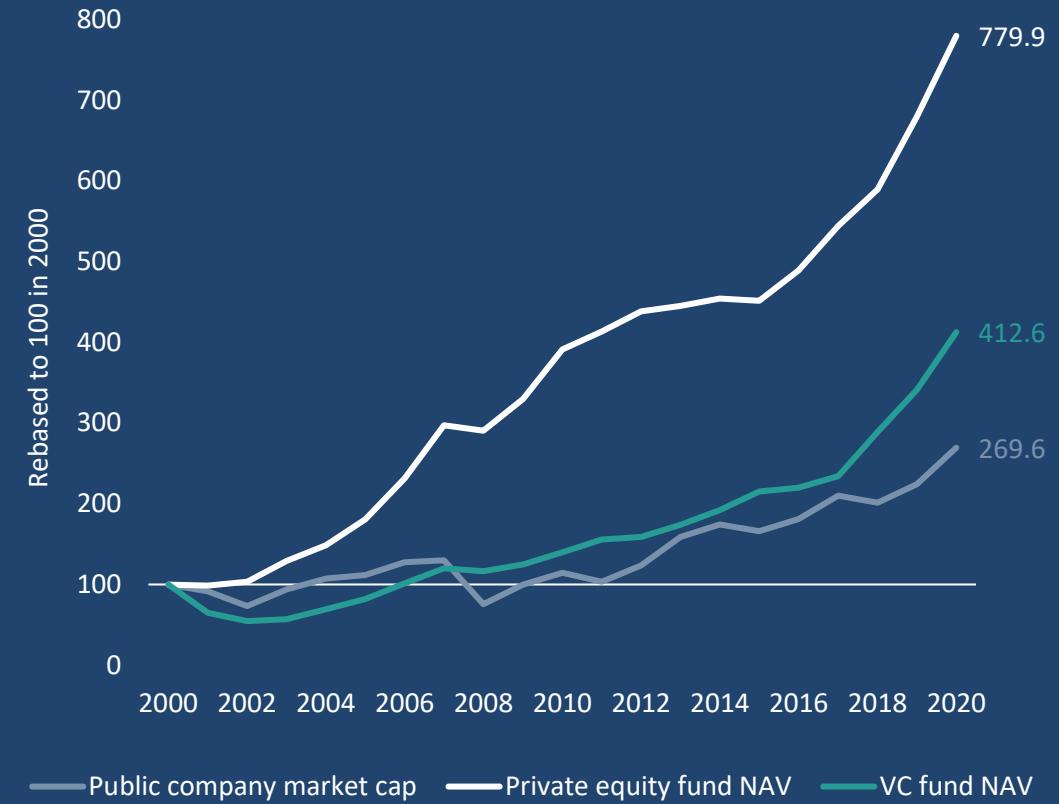


While the count of publicly listed companies has declined, PE- and VC-backed companies have exploded over the past two decades.

*Growth of PE-backed companies versus public companies**



*Growth in fund NAV for VC and PE outpacing public market cap**



*Publicly listed and PE-backed company counts as of December 31, 2019; market cap and fund NAV through December 31, 2020



Despite ongoing uncertainty due to the pandemic, our PE Barometer shows a moderately positive environment for private equity...

*PitchBook PE Barometer**

Indicator category	Indicator	Signal	Beta	Value	=	Contribution
Macro	National Activity Index	Level	0.60	x	0.12	= +0.07
	National Activity Index	Trend	0.41	x	0.10	= +0.04
	Consumer Confidence	Level	-0.22	x	0.02	= -0.00
	Consumer Confidence	Trend	-0.68	x	0.03	= -0.02
	Business Confidence	Level	1.30	x	0.05	= +0.07
	Business Confidence	Trend	-0.78	x	0.07	= -0.06
Credit	High-yield spreads	Level	-0.87	x	-0.06	= +0.05
	High-yield spreads	Trend	-0.03	x	-0.10	= +0.00
	Lending standards	Level	-0.81	x	-0.03	= +0.02
	Financial Stress Index	Level	-0.85	x	-0.09	= +0.08
	Financial Stress Index	Trend	-0.04	x	-0.12	= +0.01
	Implied equity vol	Level	-0.24	x	-0.08	= +0.02
Equity	Implied equity vol	Trend	0.03	x	-0.12	= -0.00
	Small cap equity	Trend	-0.35	x	0.11	= -0.04
PE Barometer Score July 2021						+0.23
Implied quarterly return						4.97%

Source: PitchBook, FRED | Geography: US

*As of July 31, 2021

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 table shows each indicator included in the model and its contribution to the current barometer score, which is a product of the beta and current standardized value.

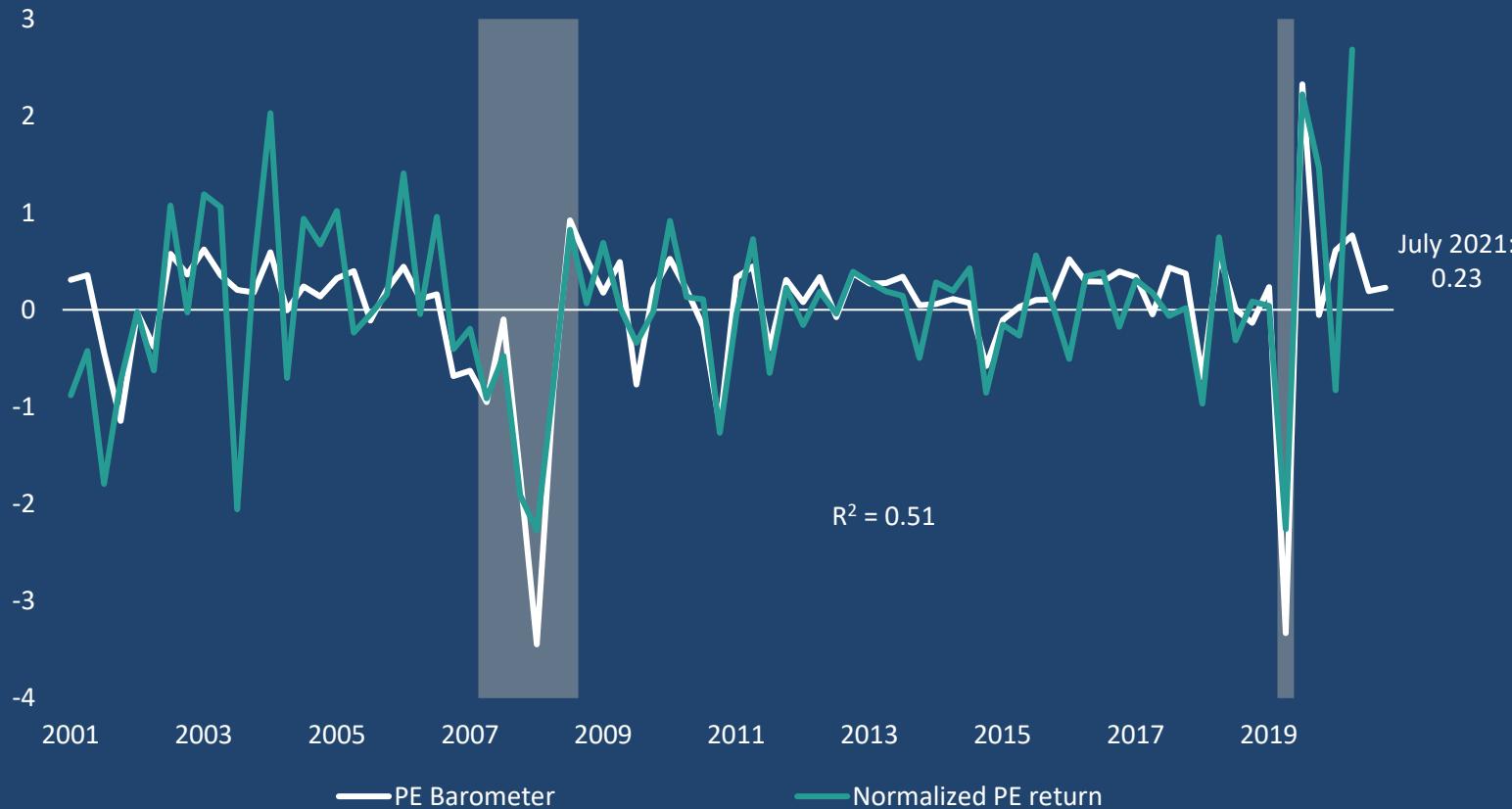
The current score of 0.23 is moderately positive, primarily driven by low readings on the Financial Stress Index and high-yield spreads and high readings on the Chicago Fed's National Activity and the Business Confidence Indexes.

For more information, please see our full breakdown and methodology [available on the PitchBook website](#).



...having recorded positive values since mid-2020.

*Quarterly PitchBook PE Barometer score and PE fund returns**



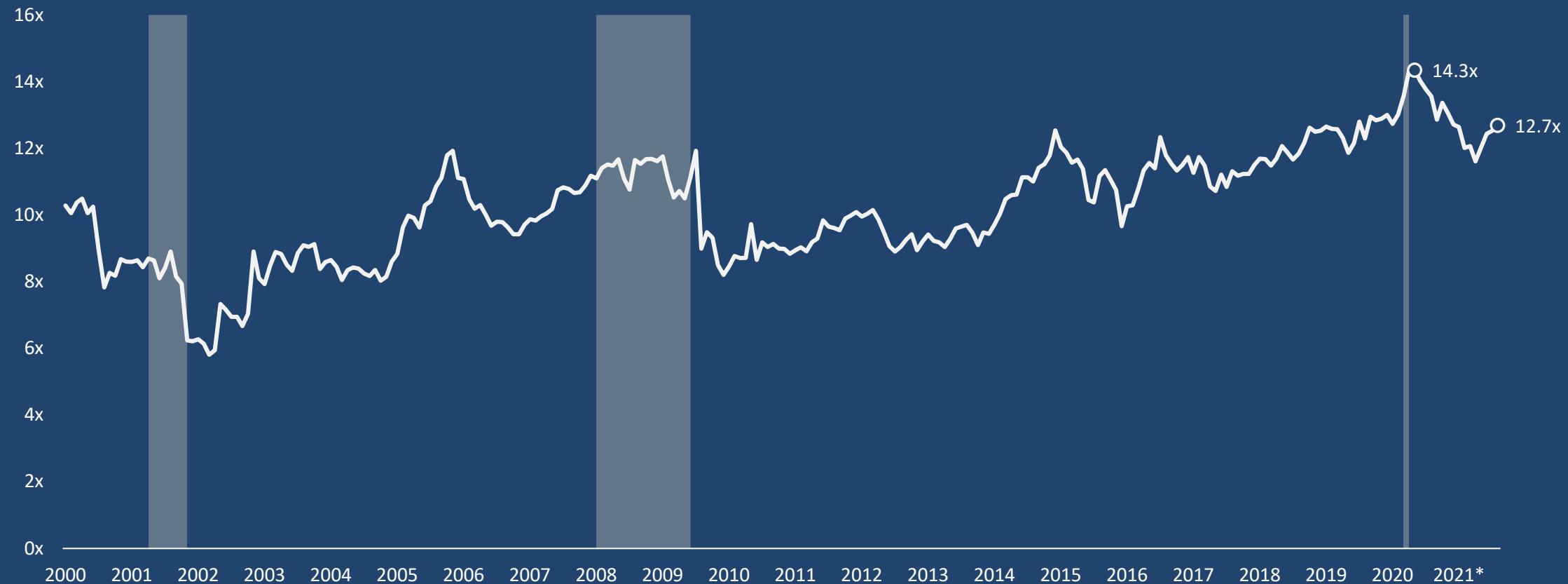
The full period R^2 between the Barometer and quarterly PE return of 0.51 indicates that economic and market factors explain most of the variation in historical PE returns and that PE has significant exposure to the risk factors that are common across most asset classes. This has important implications for multi-asset portfolio construction and risk management because overall risk tends to be concentrated in these factors in traditional allocations.

Source: PitchBook, FRED | Geography: US
*PE Barometer as of July 2021; normalized PE return as of December 31, 2020



Rising multiples on buyout deals have persisted since the GFC but reversed course after the onset of the pandemic. 2021 has seen multiples rise again, likely related to the availability of capital.

Rolling 12-month average EV/EBITDA multiple for buyout transactions



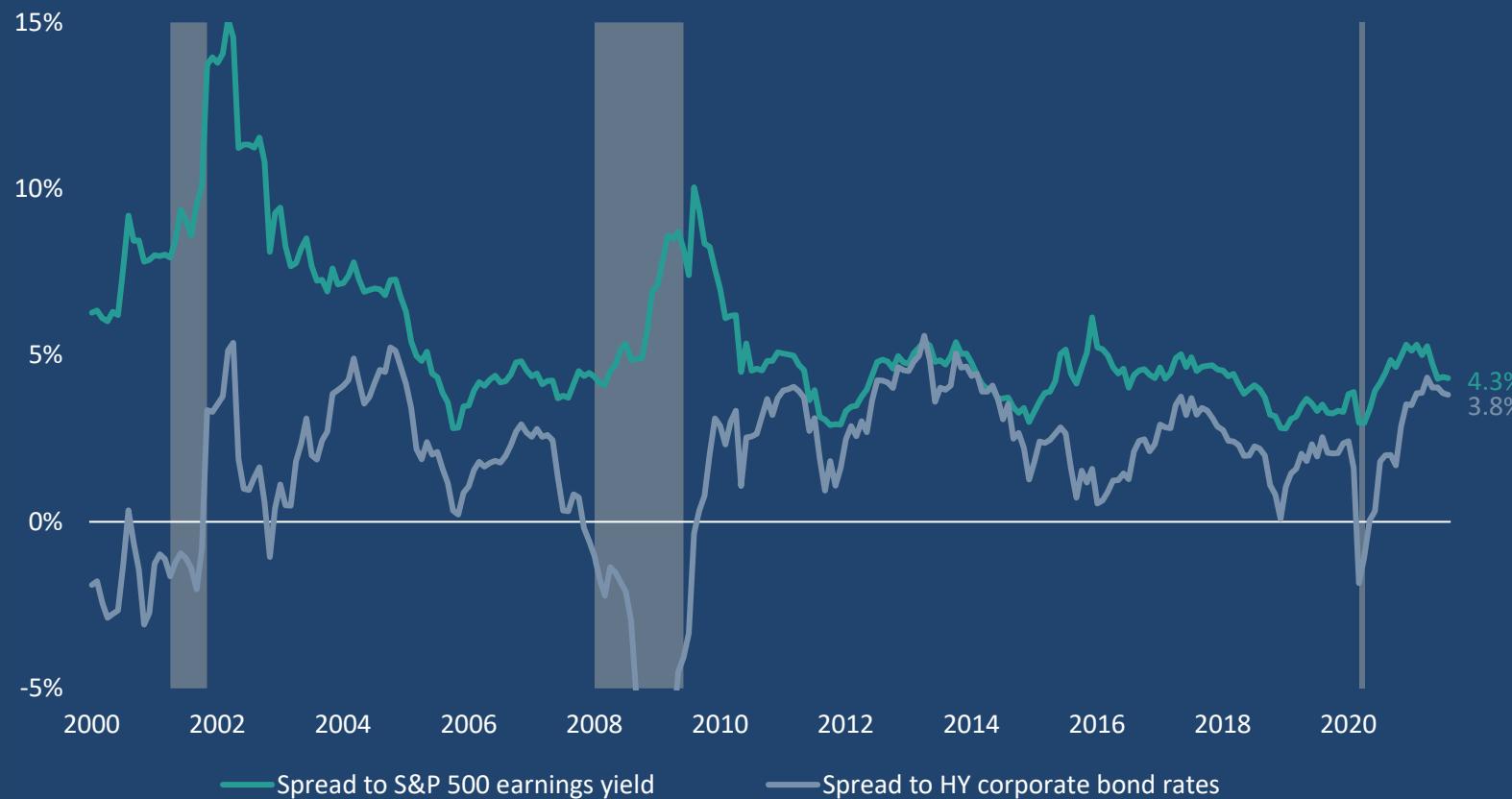
Source: PitchBook | Geography: US

*As of August 31, 2021



Despite the increasing multiples in buyout deals, relative valuations are within the last decade's norms when compared to the S&P 500 earnings yield and high-yield corporate bond rates.

*Average EV/EBITDA yield spread to S&P 500 earnings yield and high-yield corporate bond rates**



The spreads are calculated against the inverse of the 12-month average buyout EV/EBITDA multiple plotted on the previous page.

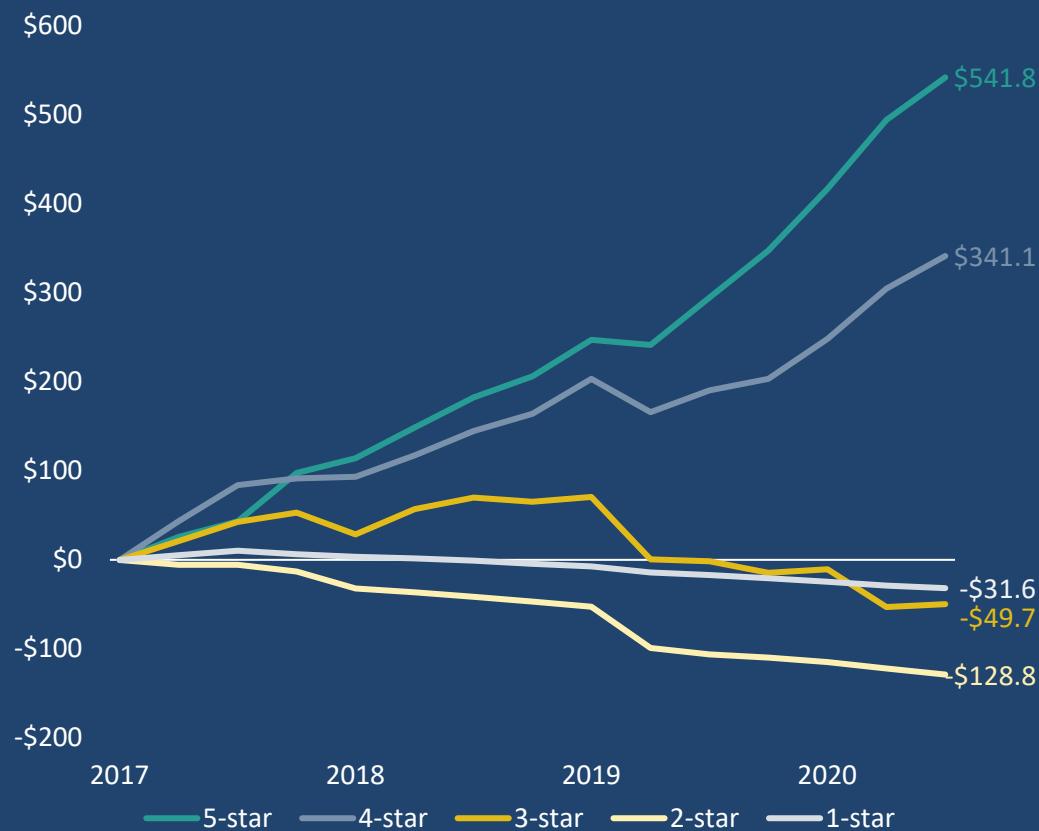
Source: PitchBook, FRED, Robert Shiller | Geography: US

*As of August 31, 2021

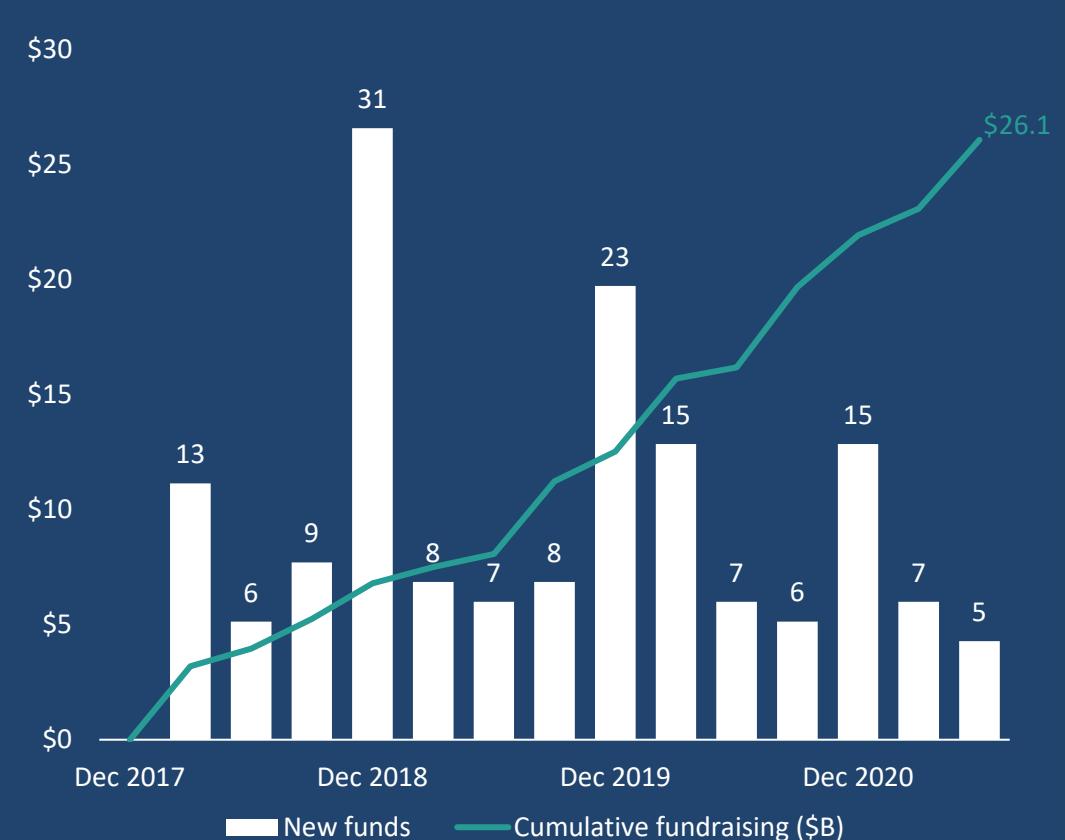


Environmental, social, and governance (ESG) investing has grown, but only 4- and 5-star-rated mutual funds have positive net flows since 2017, while \$26.1 billion has been raised in impact funds.

*Institutional net flows (\$B) into all mutual funds by Morningstar Sustainability star ratings**



*Private, closed-end impact fundraising activity**



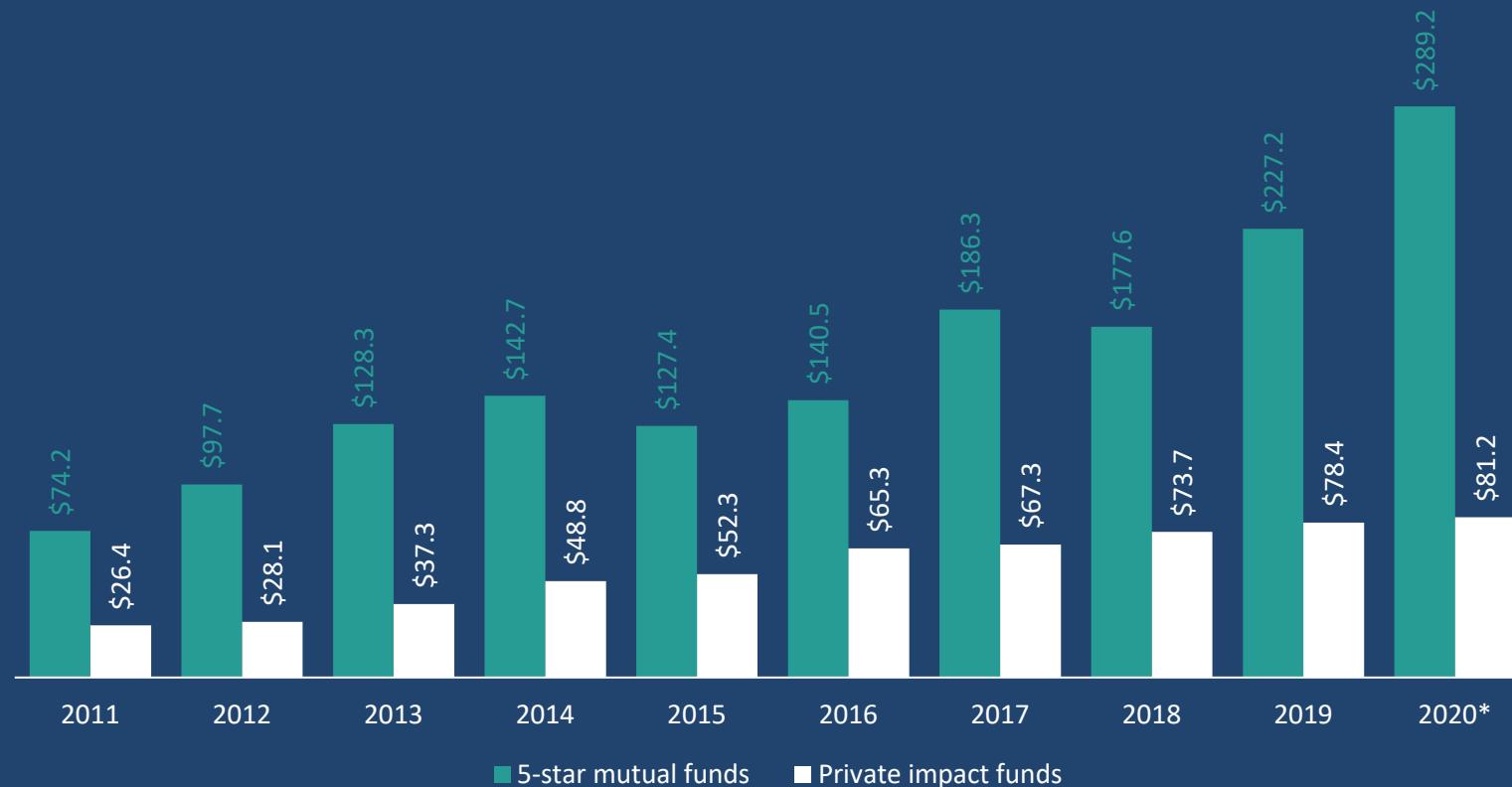
Source: PitchBook, Morningstar, Global Impact Investing Network | Geography: US

*As of June 30, 2021



Institutional investor assets in actively managed, 5-star funds still outweigh private impact fund investment, but both have been steadily rising over the last decade.

Institutional assets under management (\$B) in 5-star Sustainability, actively managed mutual funds versus private impact funds



Interested readers can find more information on ESG investment practices in our recently released [Sustainable Investor Survey](#).

Source: PitchBook, Morningstar, Global Impact Investing Network | Geography: US

*As of December 31, 2020



Equity markets spotlight: Fund cash flows



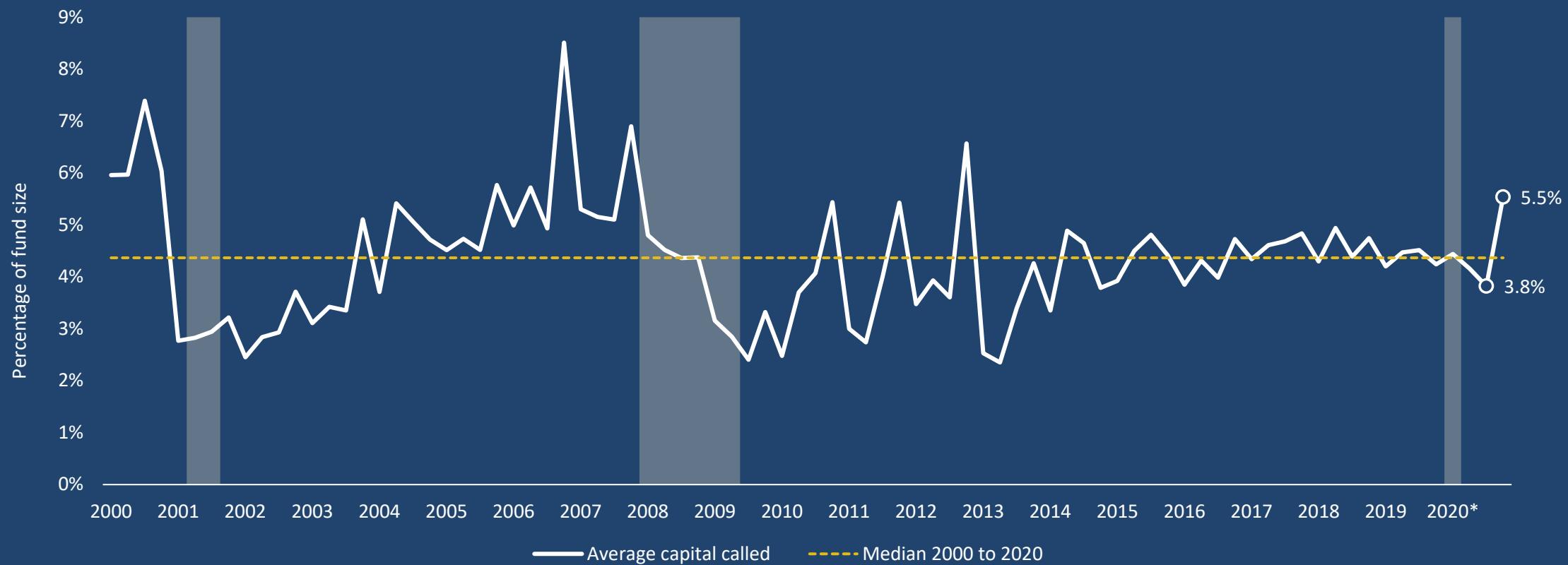
Key takeaways

- Capital calls made by buyout and venture fund GPs to their LPs took a dip in early 2020 as the pandemic hit, hitting a multiyear low average contribution as a percentage of fund size of 3.8% and 3.7%, respectively. By the end of 2020, though, average capital called reached a multiyear high of 5.5% for both fund strategies.
- The increased capital calls have been in response to a surprisingly buoyant market for deal and exit activity. Both buyout and venture funds saw average distributions rebound to well above historical medians by year-end 2020.
- The breadth of winners is evidenced by the multiyear highs in the proportion of buyout and venture funds that made a distribution in Q4 2020 as the recovery was fully underway.
- Both strategies registered rebounds in total capital distributed back to LPs in 2020 over 2019, with venture funds hitting an all-time high in net realizations of \$71.7 billion.



As in prior recessions, buyout fund capital calls dipped as GPs took stock of the economic climate, but the rebound in deployment by year-end 2020 was strong and swift.

Average quarterly capital calls for buyout funds (funds five years old or younger)



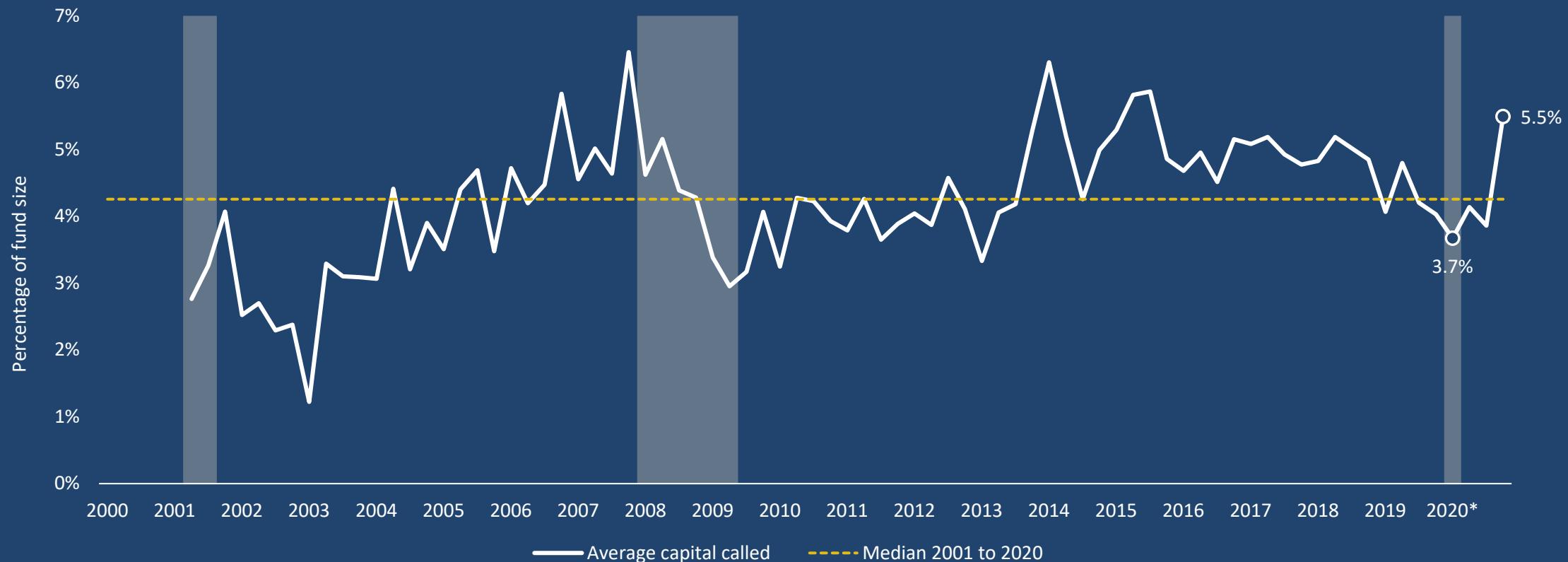
Source: PitchBook | Geography: US

*As of December 31, 2020



Venture capital also briefly reduced deployment in early-to-mid-2020 before rebounding to well above the historical median capital call.

Average quarterly capital calls for venture funds (funds five years old or younger)



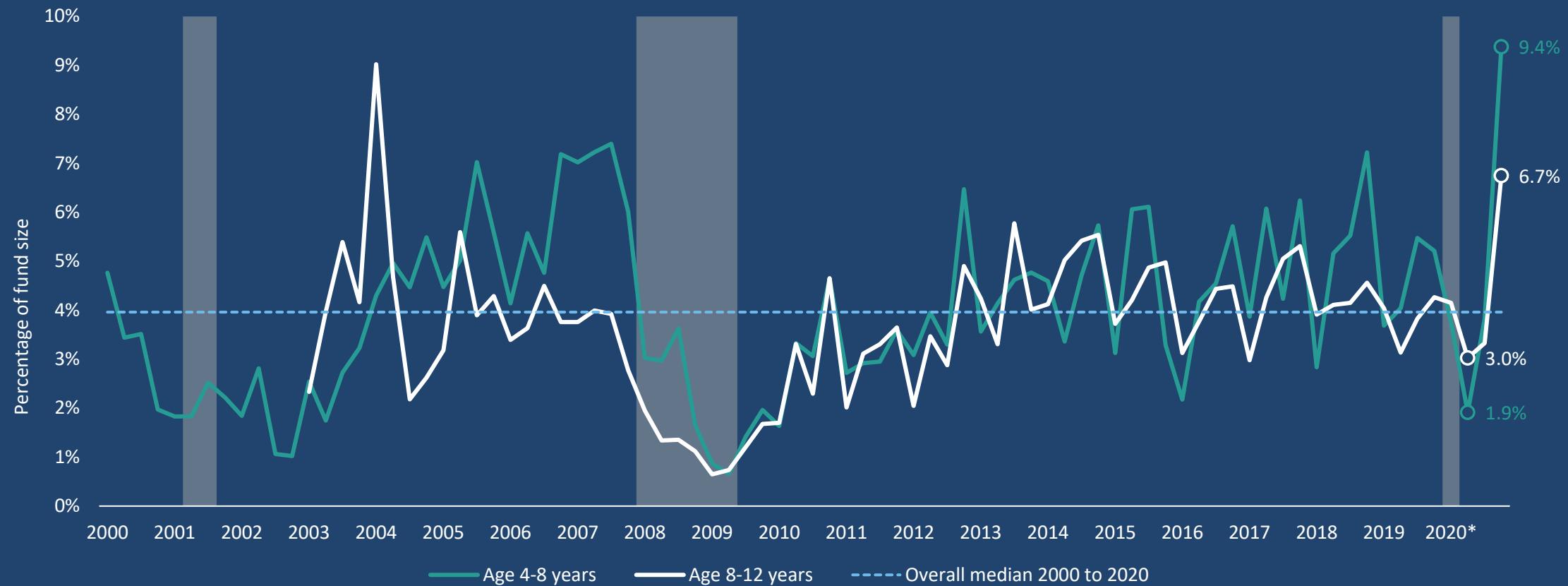
Source: PitchBook | Geography: US

*As of December 31, 2020



On the reverse side of the ledger, LPs saw average distributions rebound to decade-plus highs by Q4 2020. The exit and dealmaking environment has proven to be surprisingly spry...

Average quarterly distributions to LPs by buyout funds (funds 4 to 8 years old and 8 to 12 years old)



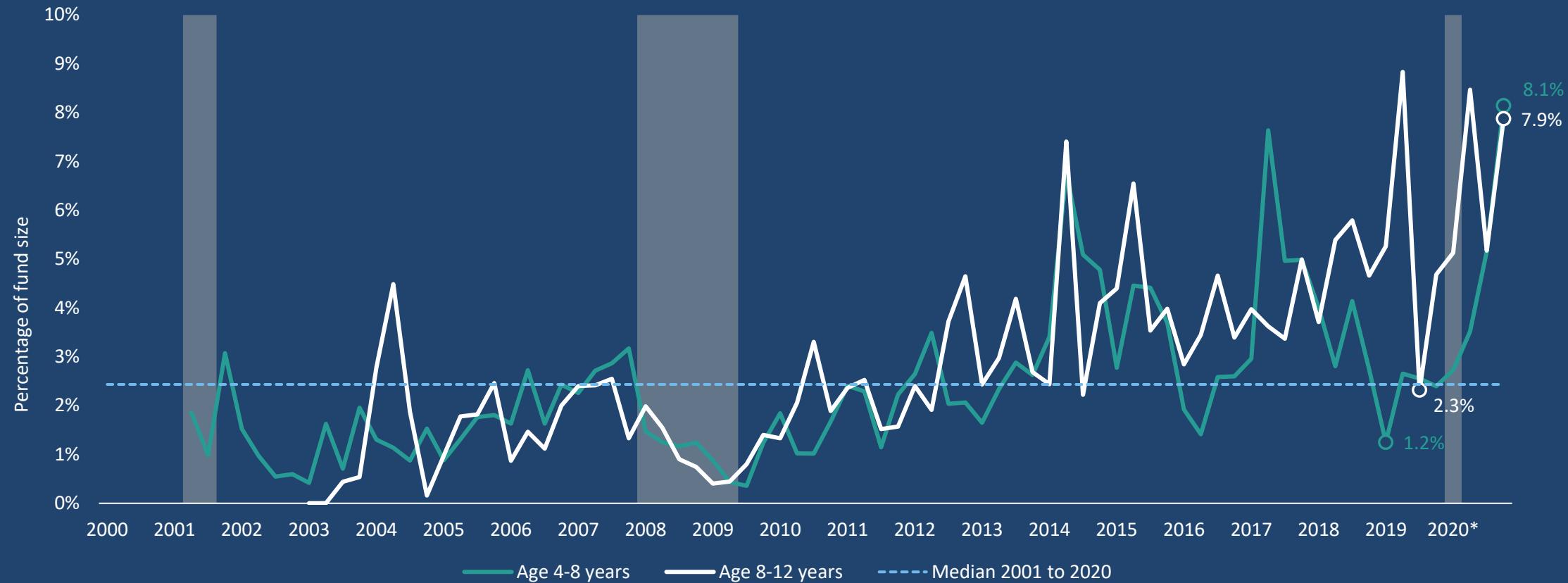
Source: PitchBook | Geography: US

*As of December 31, 2020



...which has also benefited venture funds and led to near-highs in average distribution rates, effectively bolstering the upward trend since the GFC.

Average quarterly distributions to LPs by venture funds (funds 4 to 8 years old and 8 to 12 years old)



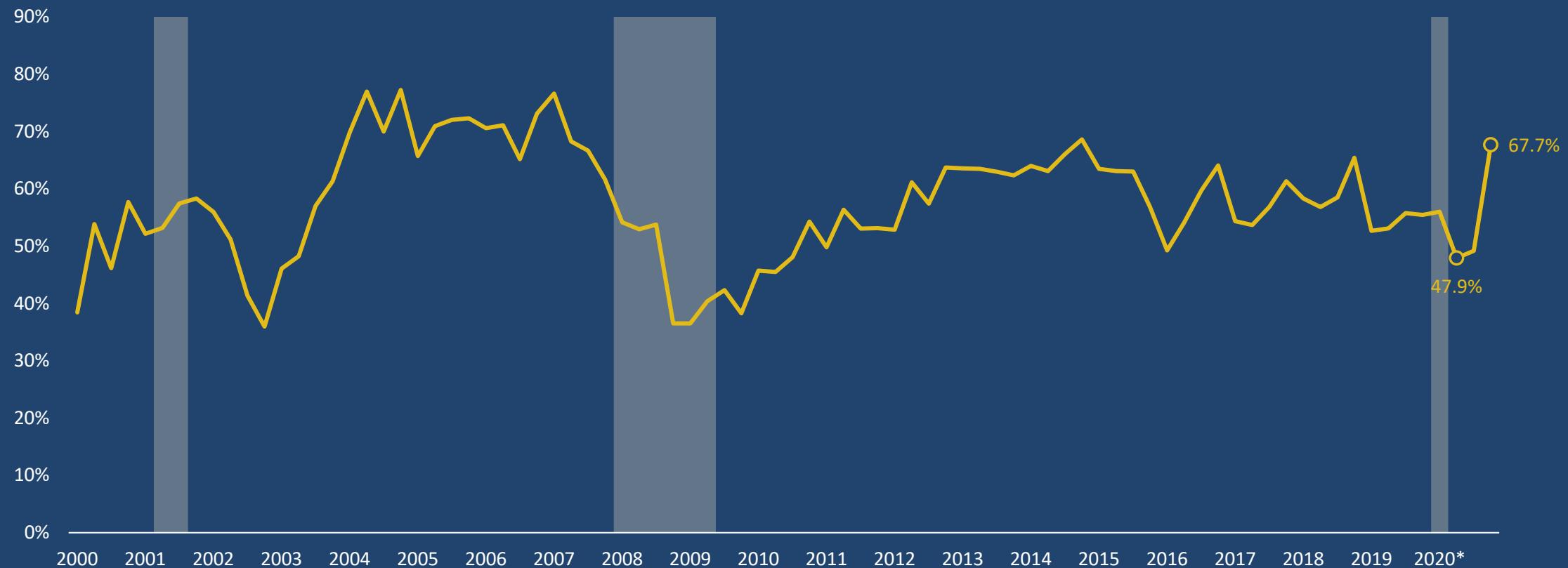
Source: PitchBook | Geography: US

*As of December 31, 2020



Not only did average distributions to LPs rise, but Q4 2020 also saw a sharp rebound in the percentage of buyout funds that made a distribution, suggesting there is breadth to the winners...

Proportion of buyout funds aged 4 to 8 years with a distribution



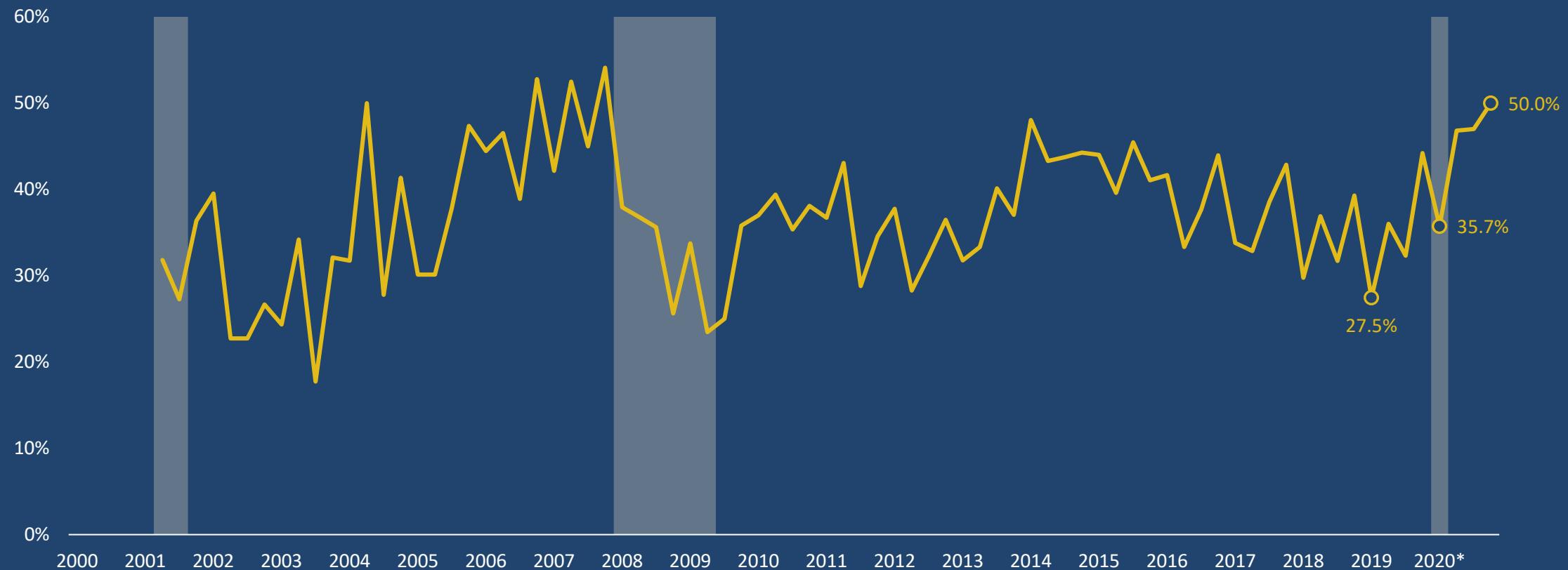
Source: PitchBook | Geography: US

*As of December 31, 2020



...and once again, venture funds followed suit by hitting a decade-plus high in Q4 2020 in the percentage of funds that made a distribution.

Proportion of venture funds aged 4 to 8 years with a distribution



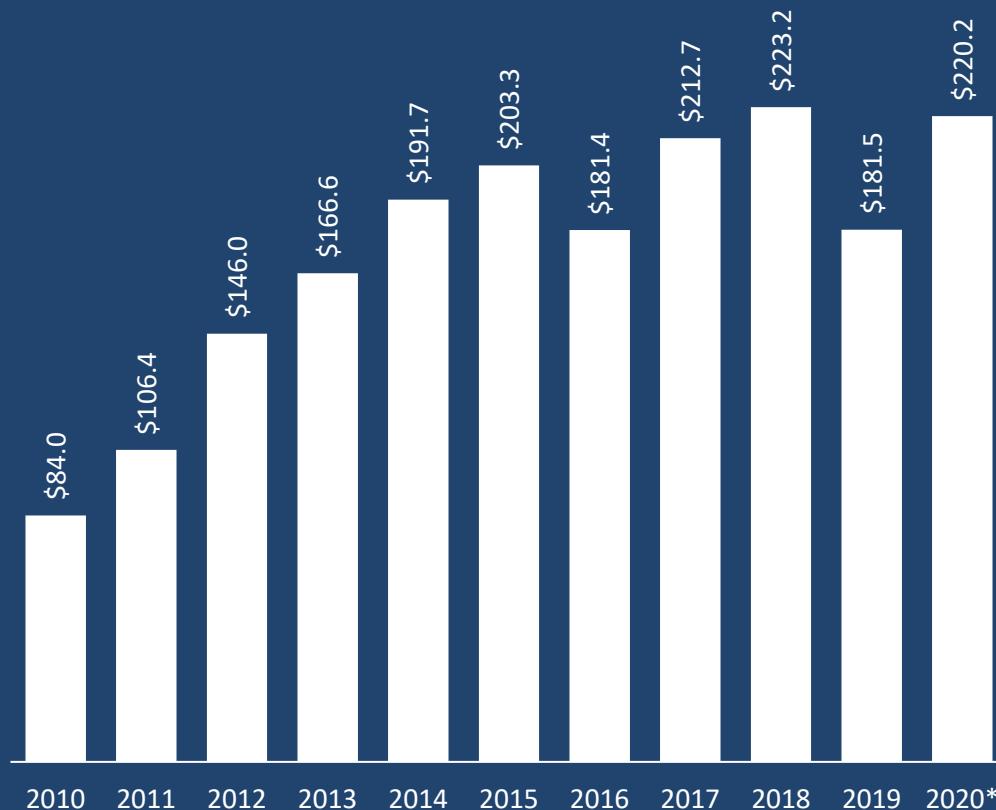
Source: PitchBook | Geography: US

*As of December 31, 2020

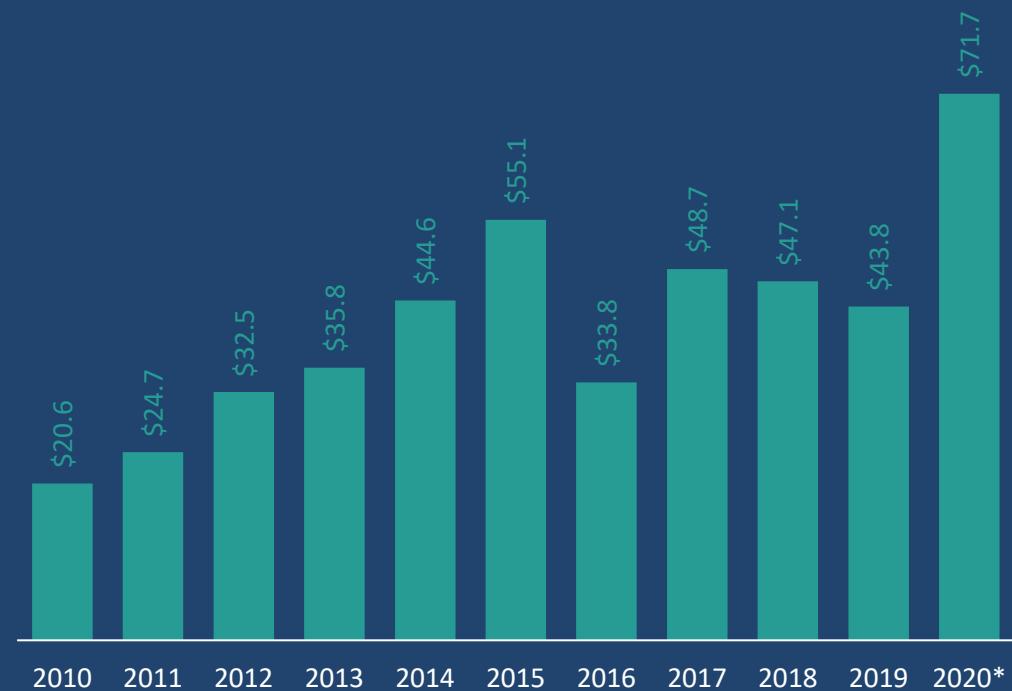


Buyout fund distributions rebounded in 2020 after a lull in 2019, and VC shattered previous records. The \$71.7 billion distributed was nearly 60% more than the previous five-year average.

Distributions (\$B) to LPs by buyout funds



Distributions (\$B) to LPs by VC funds



Source: PitchBook | Geography: US

*As of December 31, 2020



Real estate



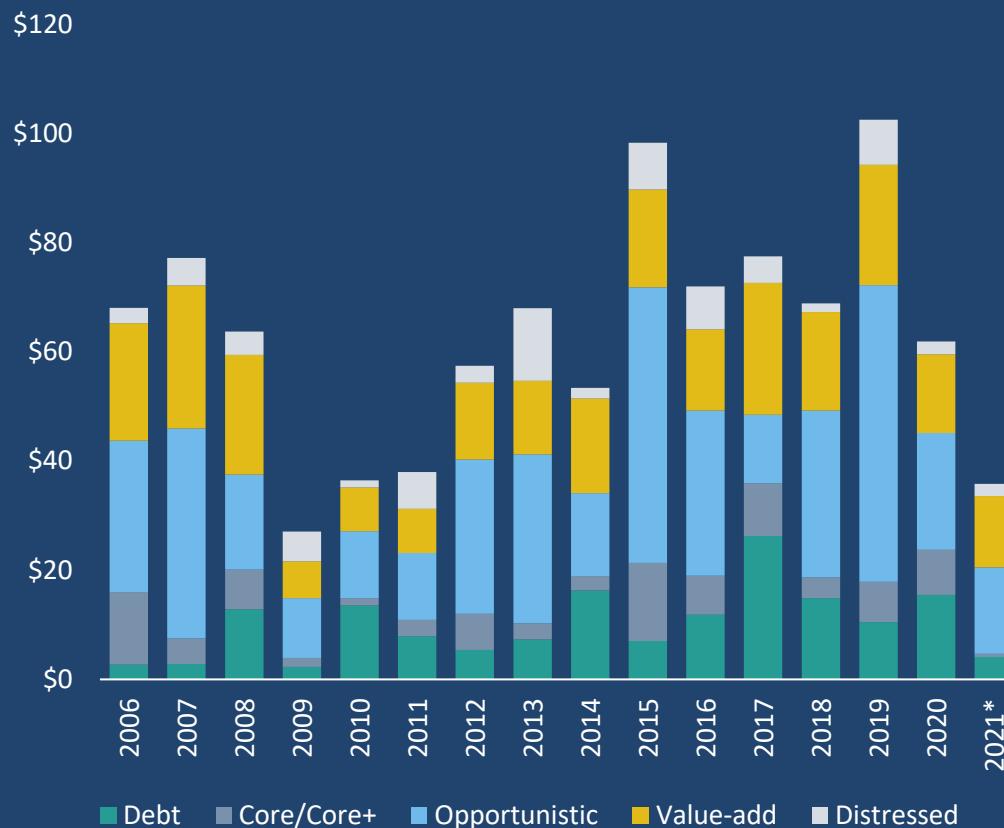
Key takeaways

- Disruption in the real estate market has been particularly stark during the pandemic. Fundraising in the space has fallen back as LPs evaluate the new normal around e-commerce, work-from-home, and technology adoption.
- Even with the fall in fundraising and dry powder, real estate debt fund assets continue to grow, highlighting the maturation of nontraditional lenders in the space.
- Results from the most recent [Senior Loan Officer Survey](#) show banks loosening credit standards on real estate loans across all three lending categories—commercial, multifamily, and construction—for the first time since 2014.
- Returns in public and private property markets have reflected the new economy accelerated by the pandemic. Industrial real estate and storage facilities have seen strong returns compared with the broader indexes.
- The housing market is another closely followed trend, with housing starts as a proportion of regional populations lagging historical rates, leading to the huge gains in home values in the Sun Belt and West Coast markets.
- Driven largely by VC-fueled growth, San Francisco is one market to closely monitor. Although deal value hasn't shrunk during the pandemic, the metropolitan statistical area (MSA) has lost 8.6% of its share of deal value in the US.

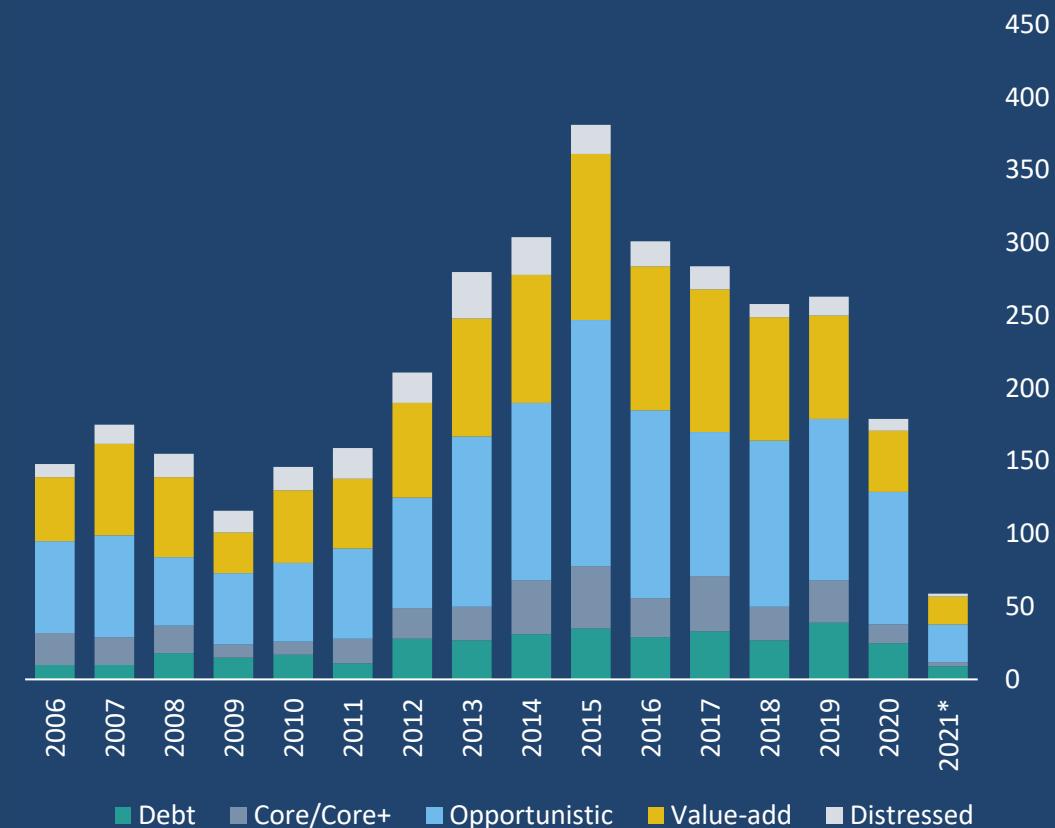


The real estate market has been one of the most disrupted by the pandemic. The effects have spilled into fundraising as 2020 saw a six-year low in capital closed and a 10-year low in vehicles.

Real estate capital raised (\$B) by strategy



Real estate funds closed (#) by strategy



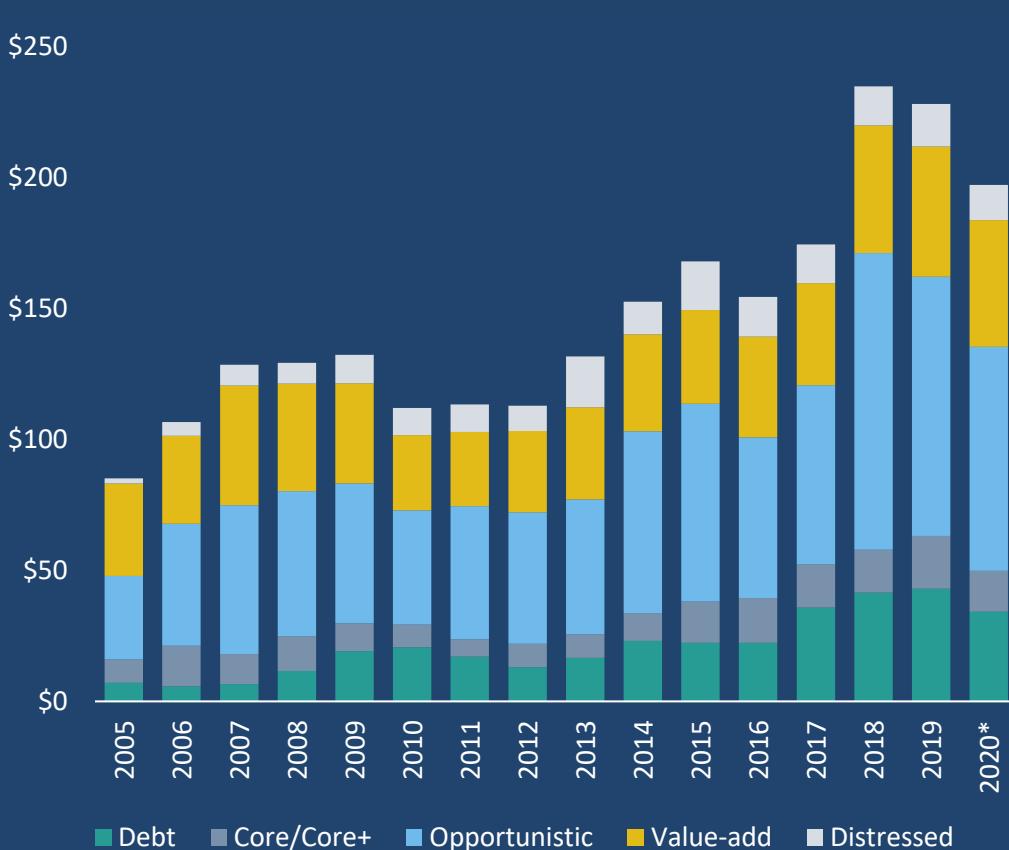
Source: PitchBook | Geography: US

*As of June 30, 2021



The drop in fundraising led to a dip in dry powder available to GPs. Even the hot debt fund strategy saw a dip for the first time since 2015, though fund assets (NAV) hit all-time highs.

Real estate dry powder (\$B) by strategy



Real estate debt dry powder and NAV (\$B)



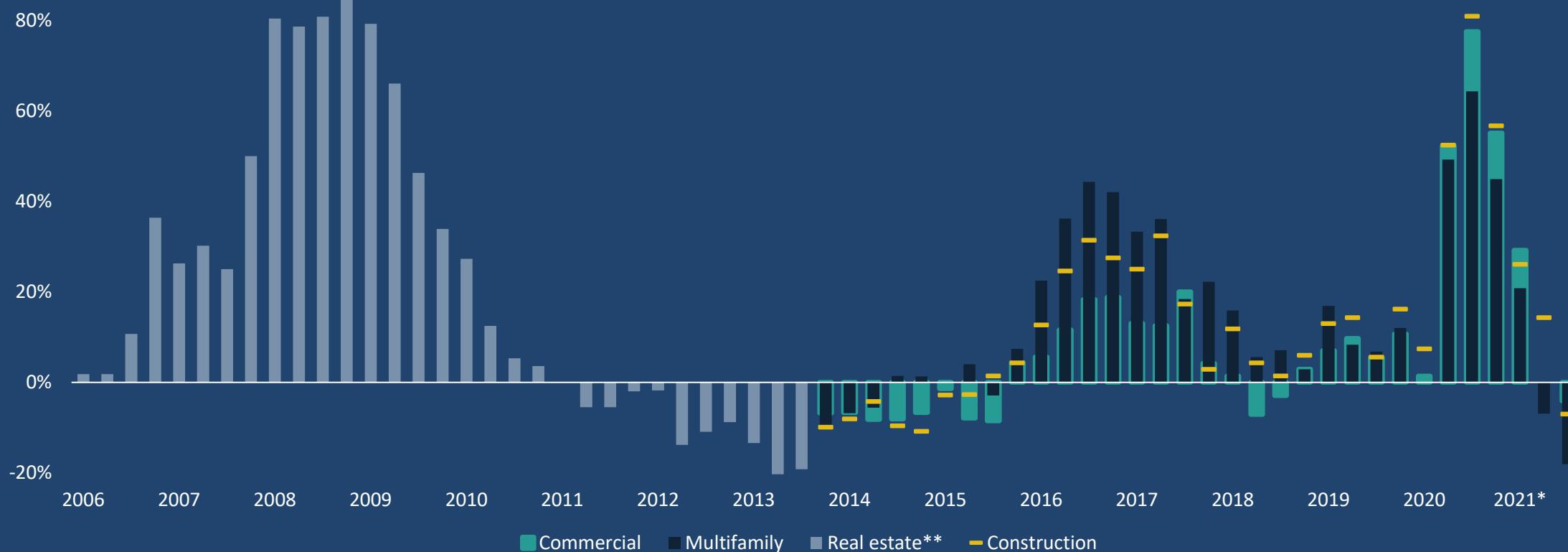
Source: PitchBook | Geography: US

*As of December 31, 2020



Debt funds have been supplanting traditional bank lending since the GFC. However, banks loosened standards across the three lending categories for the first time since 2014.

Net percentage of banks tightening standards on real estate loans



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

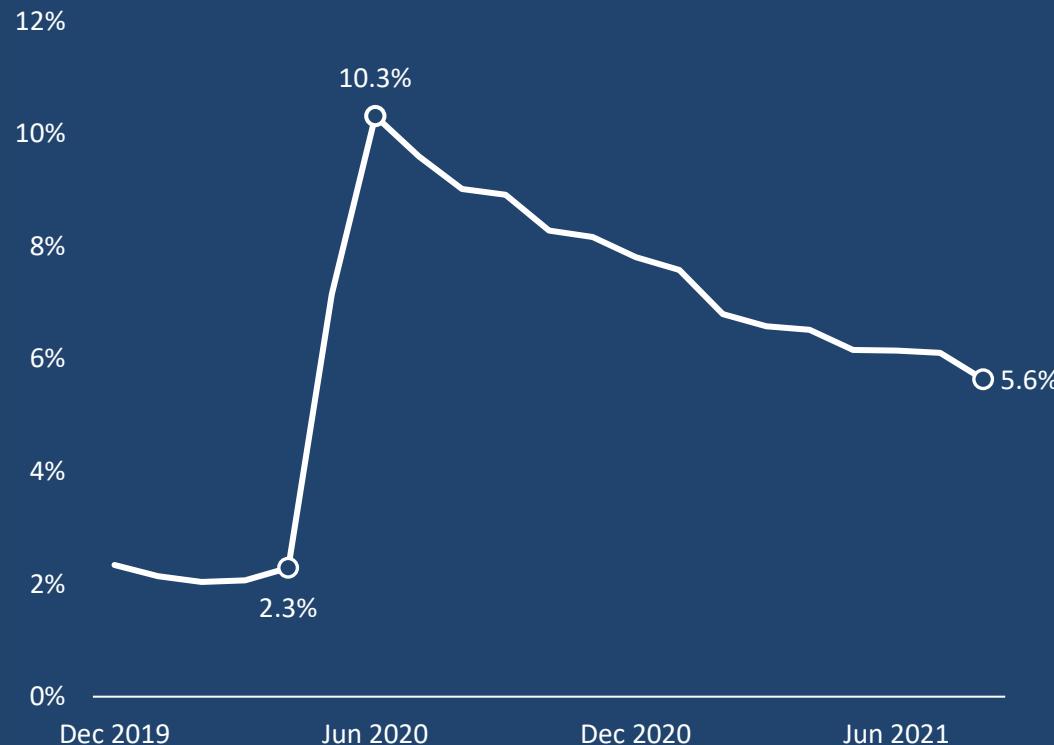
*As of June 30, 2021

**Original real estate series was broken out starting in 2013

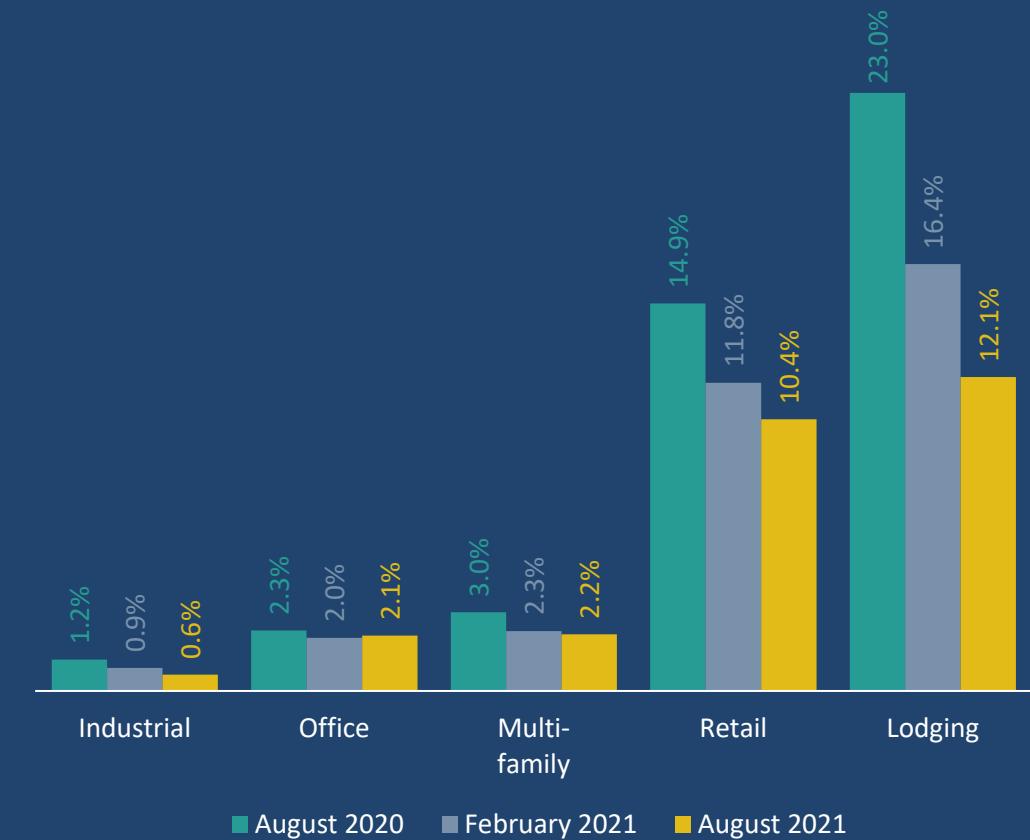


Commercial mortgage-backed securities (CMBS) delinquency rates help identify stress. Office tenants are paying rent for now, while industrial is strong. Retail and lodging remain problems...

*CMBS delinquency rate**



*CMBS delinquency rate by property type**



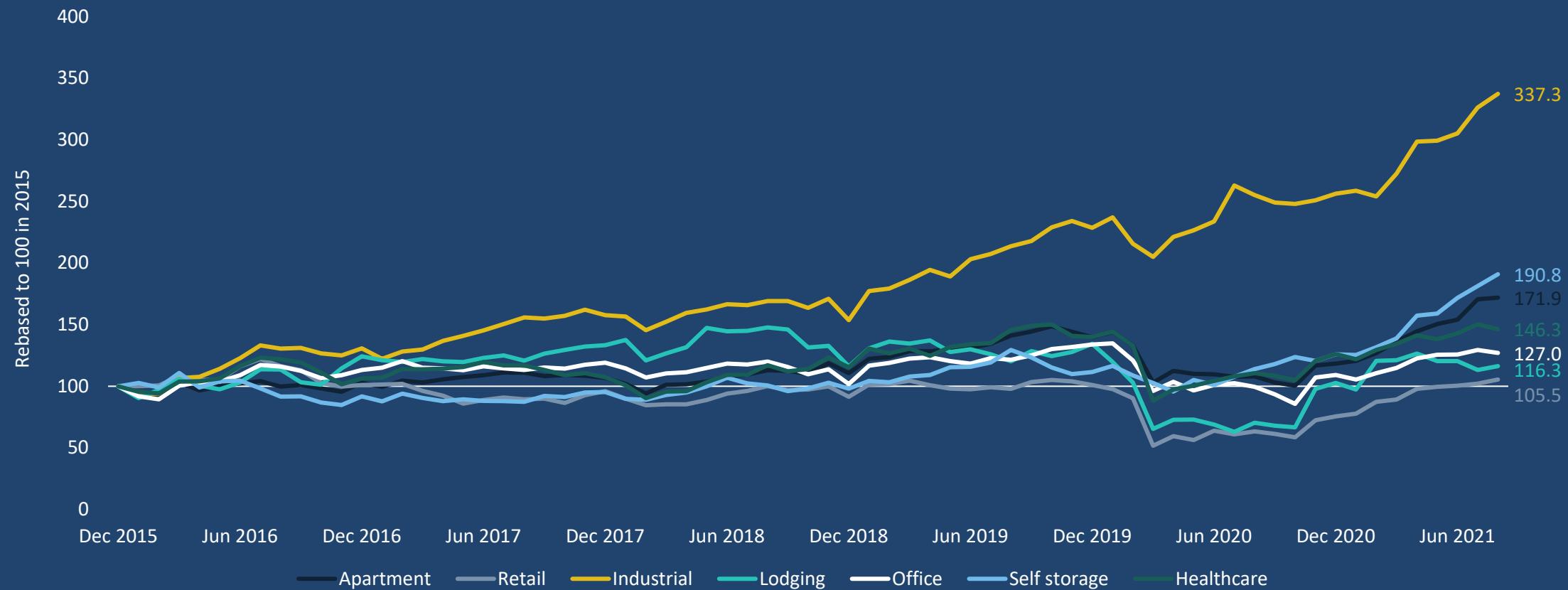
Source: Trepp | Geography: US

*As of August 31, 2021



...and those trends have tracked in public real estate investment trust (REIT) returns. Industrial has seen incredible growth with the adoption of e-commerce to the detriment of retail.

*REIT index returns by property type**



Source: Nareit | Geography: US

*As of August 31, 2021

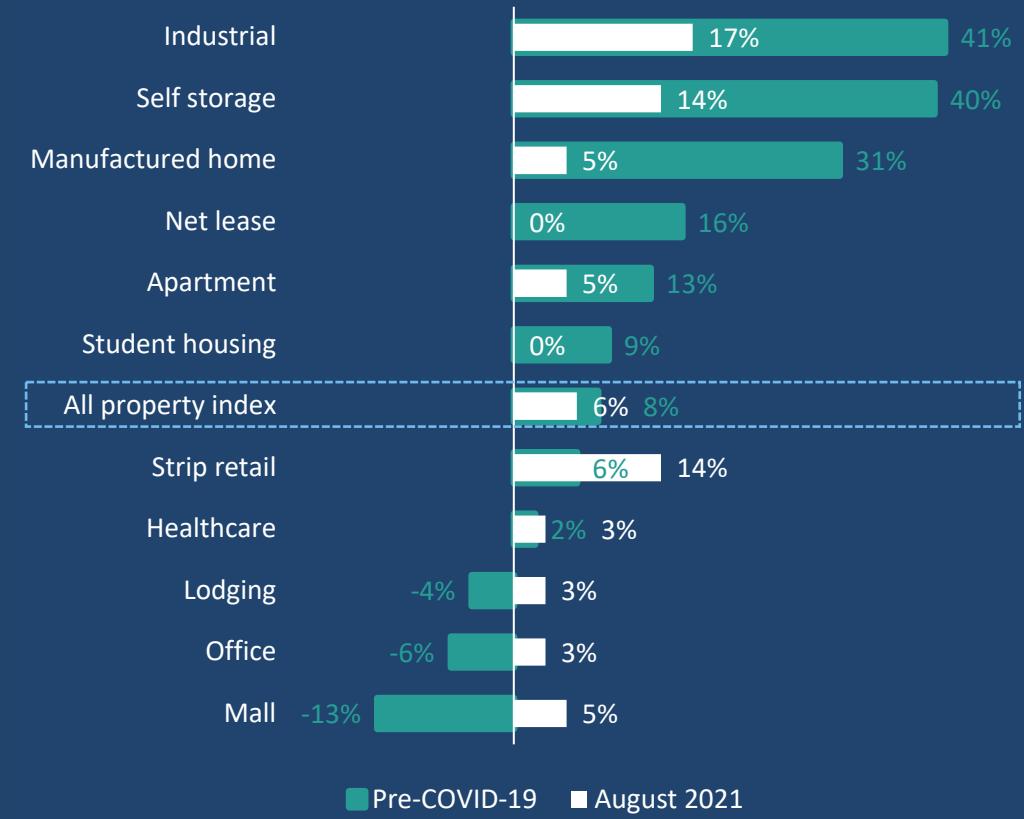


A similar story has played out in private real estate markets: Industrial property prices have strongly outperformed the broader property market, which itself has rebounded since pre-COVID-19.

Total returns on commercial real estate



*Green Street Price Index change by property type**



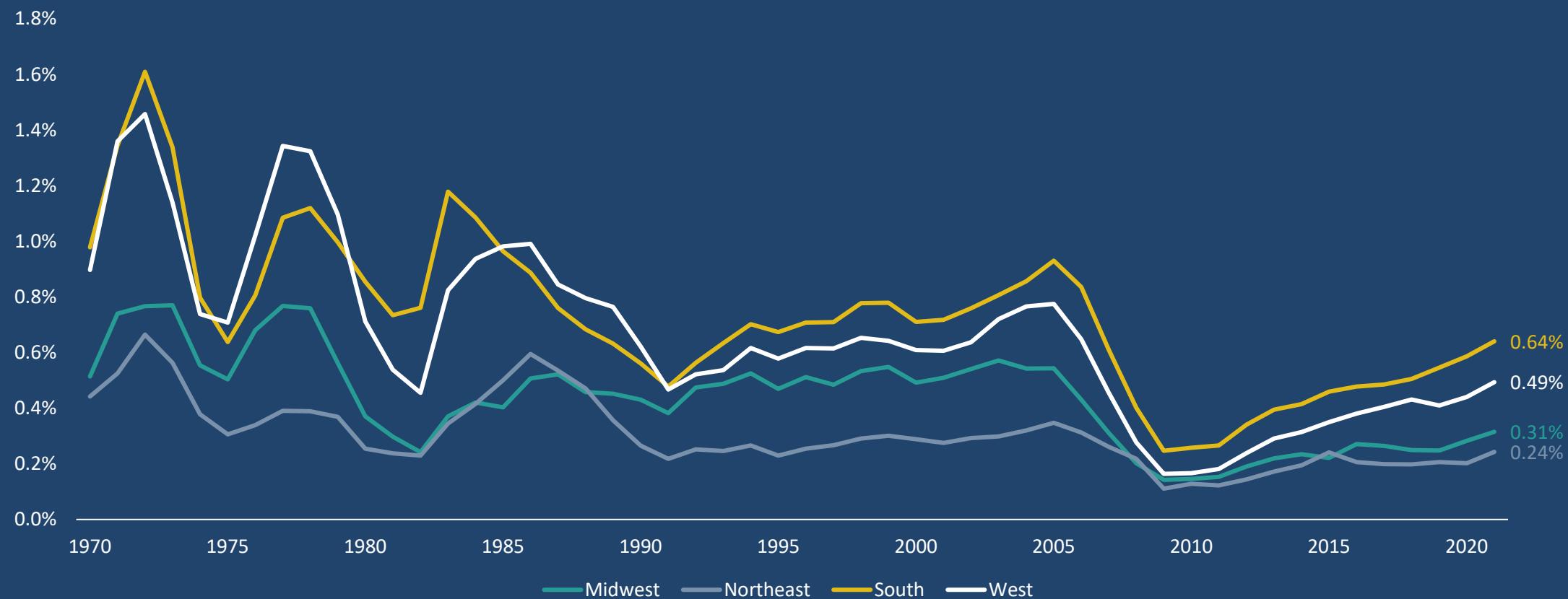
Source: Green Street | Geography: US

*As of August 31, 2021



Attention on the housing market during the pandemic has been high. Decades of falling housing start rates led to shortages in many areas, though the rebound in starts from GFC lows continues.

*Housing starts as a percentage of population by region**



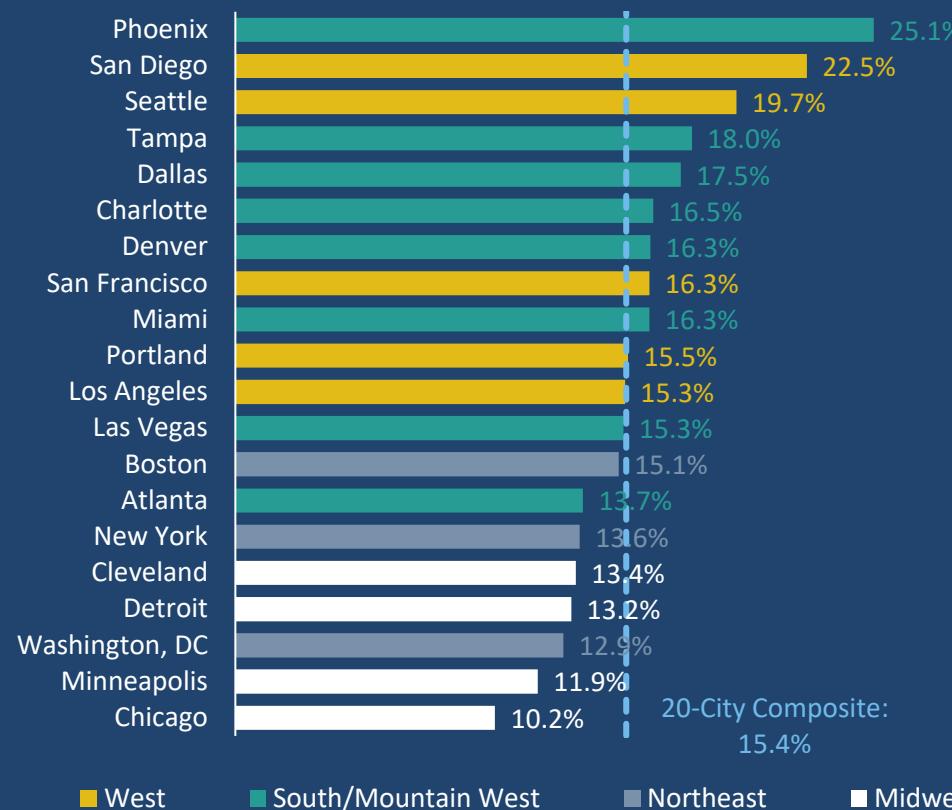
Source: FRED, US Census | Geography: US

*As of June 30, 2021

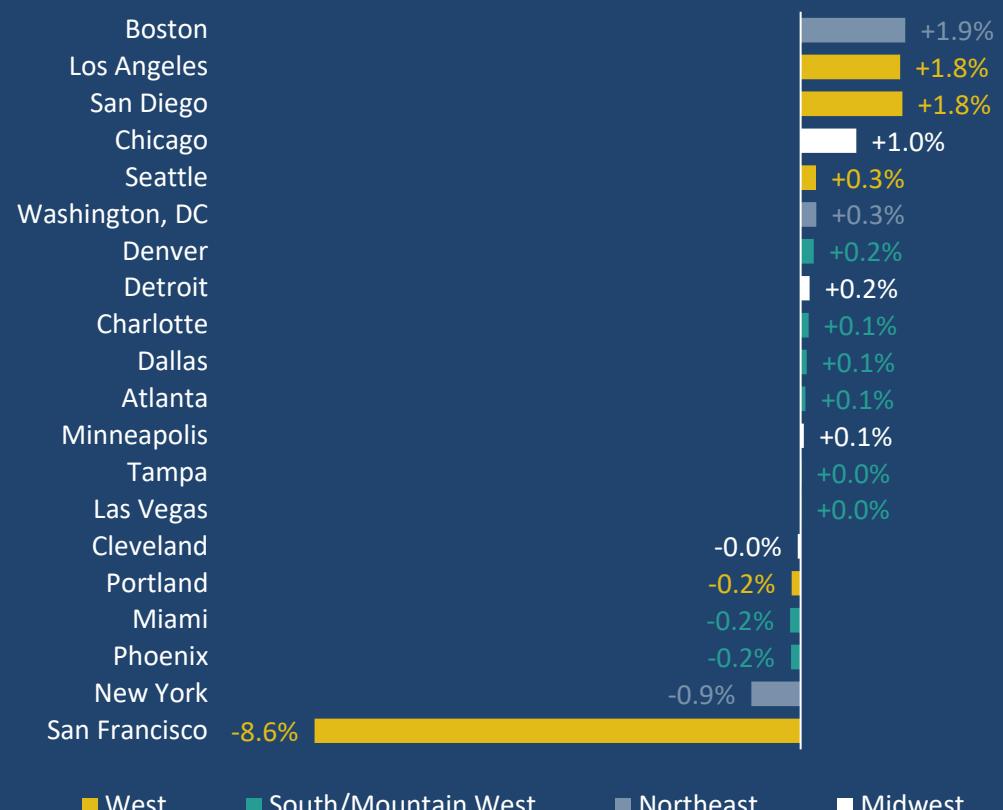


Remote work options have driven housing prices in the Sun Belt, and VC money has turned more attention outside of the Bay Area to meet this new trend.

Annualized house price growth (April 2020 through June 2021)



*Change in share of VC deal value**

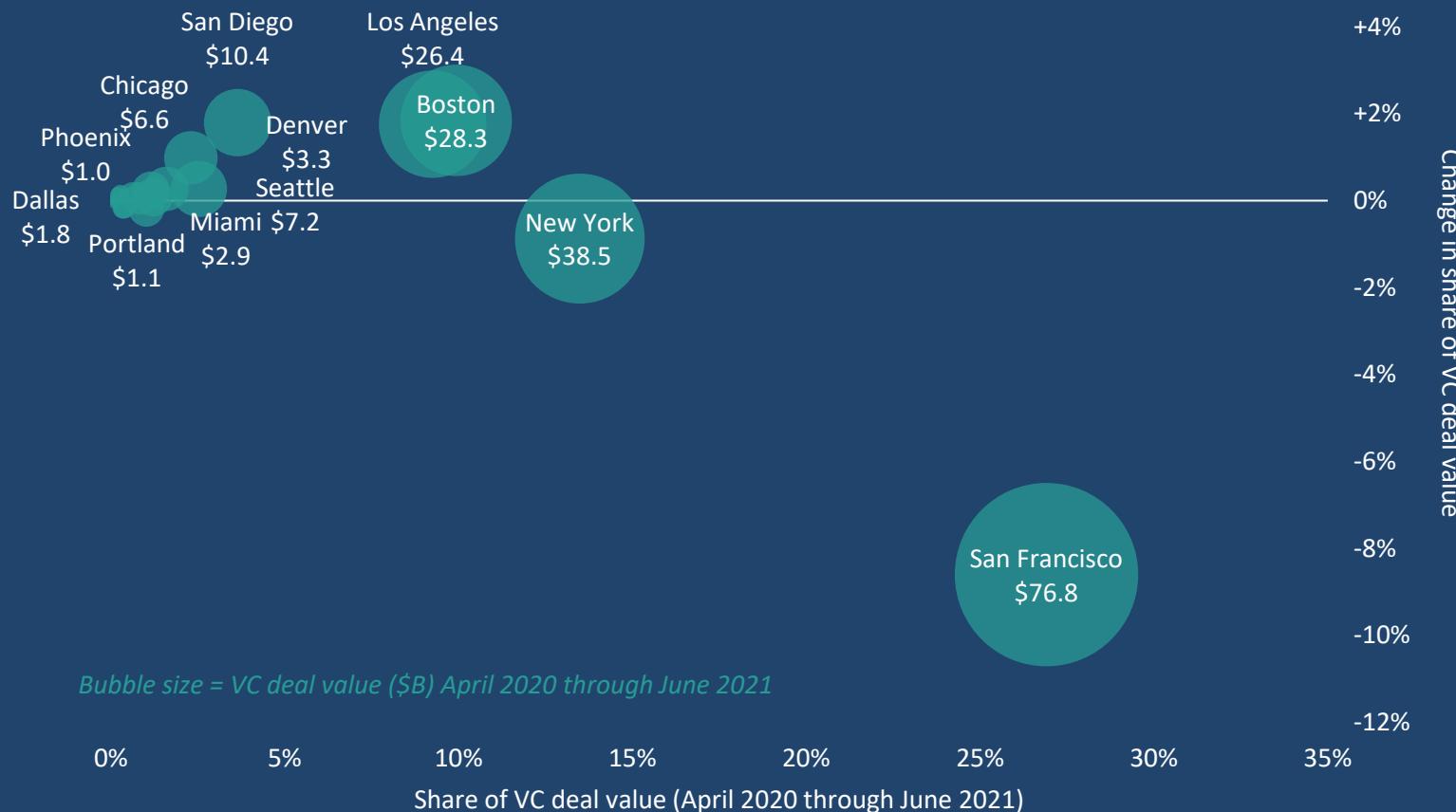


*As of June 30, 2021; change in VC share is March 2018 through March 2020 versus April 2020 through June 2021
Note: City names represent their respective MSAs.



San Francisco is still the biggest VC market (\$76.8 billion in deal value from April 2020 through June 2021), but it has lost on a relative basis to Los Angeles, Boston, San Diego, and other markets.

*Change in share of VC deal value**



VC dealmaking can be a strong indicator of a market's propensity for job creation and wage growth—both important variables for real estate demand.

*As of June 30, 2021; change in VC share is March 2018 through March 2020 versus April 2020 through June 2021
Source: PitchBook | Geography: US
Note: City names represent their respective MSAs.



Real assets



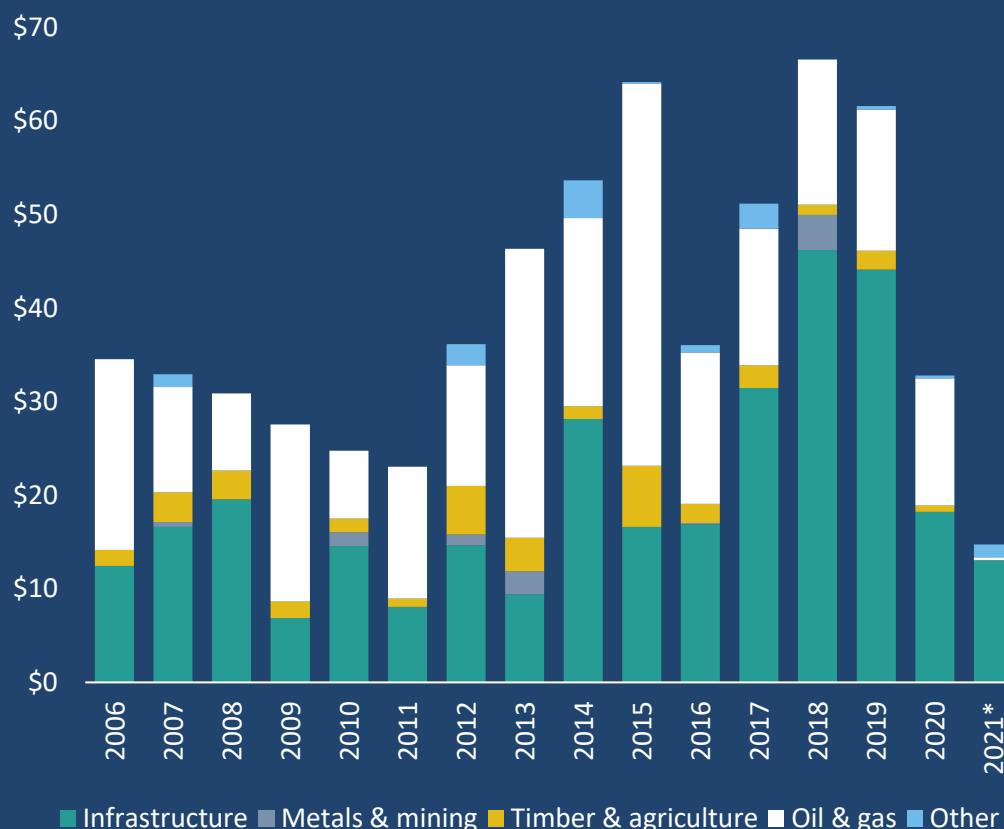
Key takeaways

- Real assets fundraising has been a laggard in 2020 and 2021, though some of that trend is due to the market being dominated by a few large infrastructure funds making capital raising particularly lumpy.
- In the coming years, infrastructure will remain in focus. It continues to be a net winner within the asset class and could see a boon from the \$3.5 trillion infrastructure package currently circling in Congress, if passed.
- Tech-focused infrastructure has been a multiyear outperformer, with publicly traded data centers and cell tower REITs outperforming timber REITs and oil & gas master limited partnerships (MLPs).
- Agricultural commodities, industrial metals, and oil & gas prices have rebounded from 2020 lows, potentially offering a reprieve to asset managers focused on those spaces.
- The impact investing trend has hit particularly close to real assets, with energy and agriculture being the most popular themes in private fundraising.

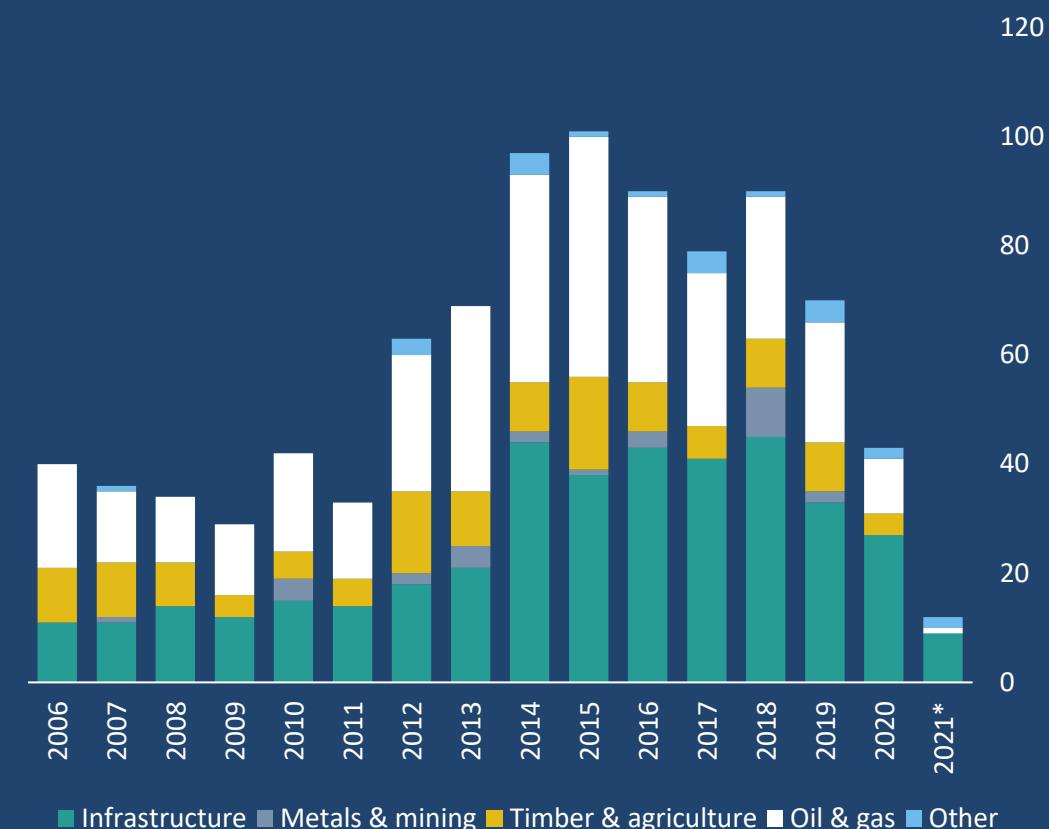


Real asset fundraising lagged in 2020, with capital raised falling by nearly half in 2020 from 2019, largely due to the lumpiness of infrastructure fundraising and oil & gas continuing to lose favor.

Real assets capital raised (\$B) by strategy



Real assets fund closings (#) by strategy



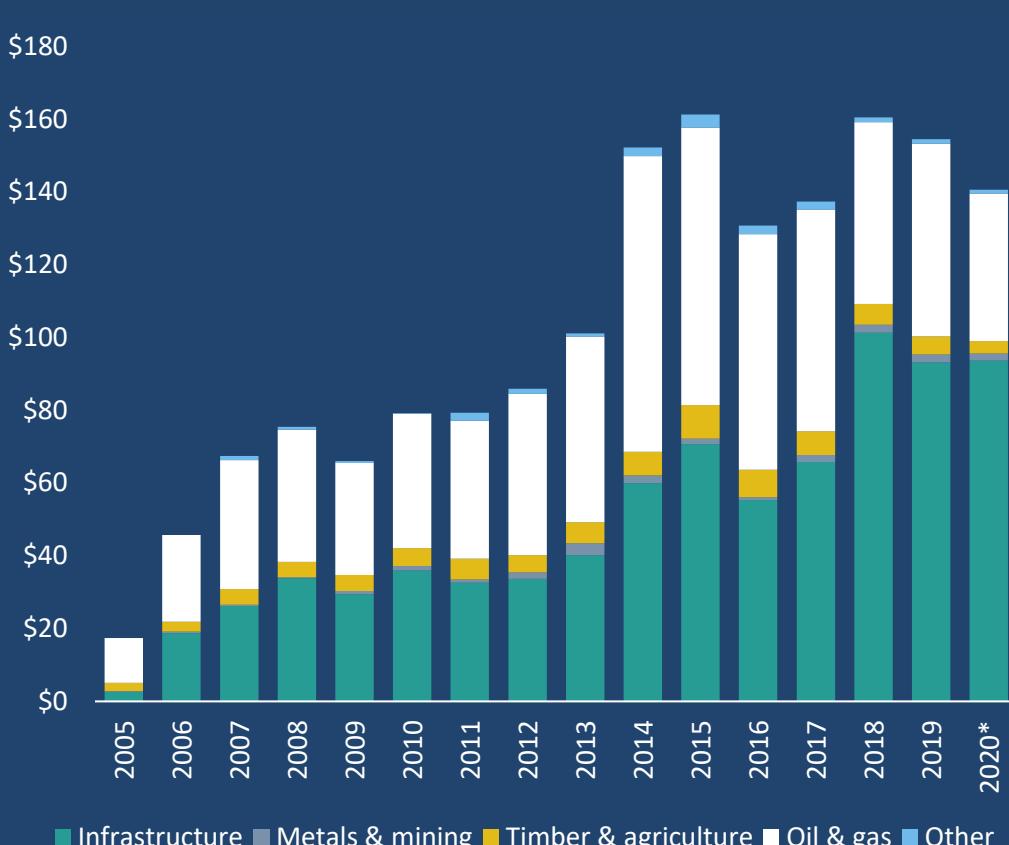
Source: PitchBook | Geography: US

*As of June 30, 2021



Infrastructure fund managers are poised to take advantage of public-private partnerships if the \$3.5 trillion infrastructure package passes through Congress.

Dry powder (\$B) by strategy



Infrastructure fund dry powder and NAV (\$B)



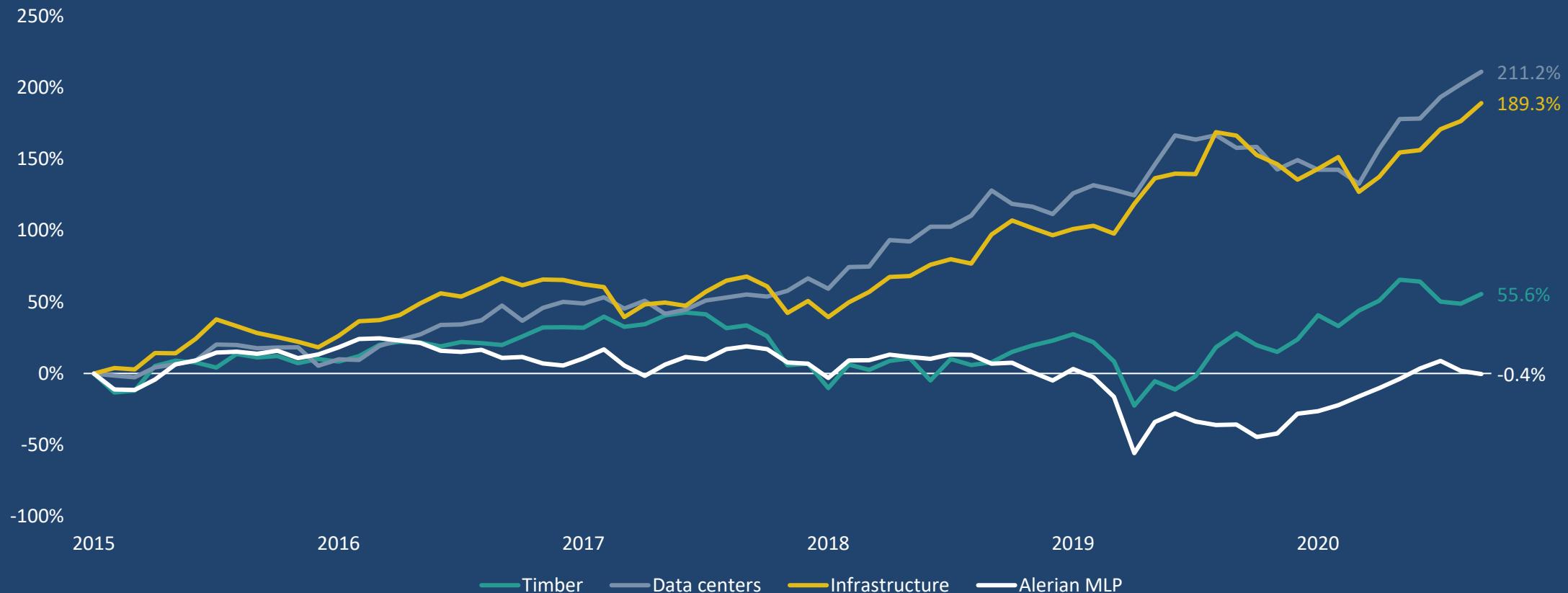
Source: PitchBook | Geography: US

*As of December 31, 2020



Data center and cell-tower-dominated infrastructure REITs have seen an influx of capital as digitization of the economy intensifies.

*Real asset REIT and Alerian natural gas/oil pipeline MLP exchange traded fund (ETF) total returns**



Source: Nareit, Morningstar | Geography: US

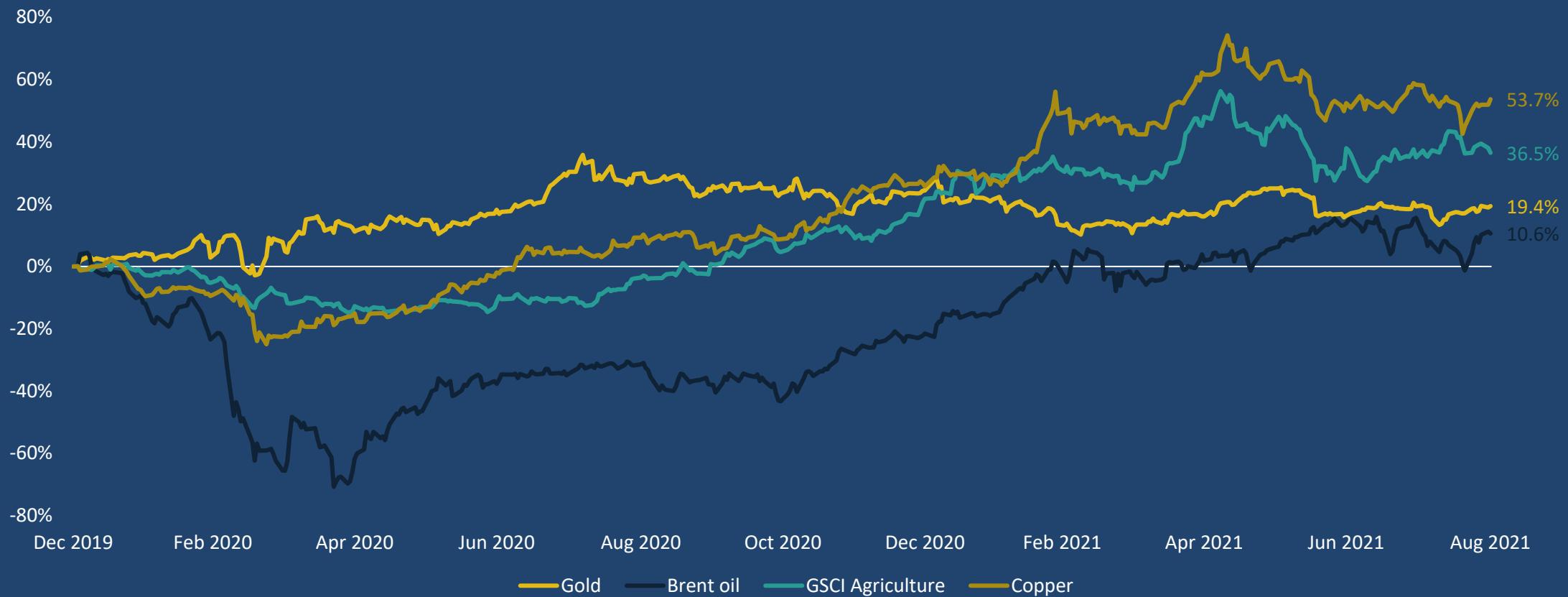
*As of August 31, 2021

Note: The infrastructure index is dominated by cell tower REITs.



In early 2020, commodity price returns dipped into negative territory. The ensuing recovery has been met with rising consumer prices, with supply of many inputs failing to keep up with demand.

*Select commodity price returns**



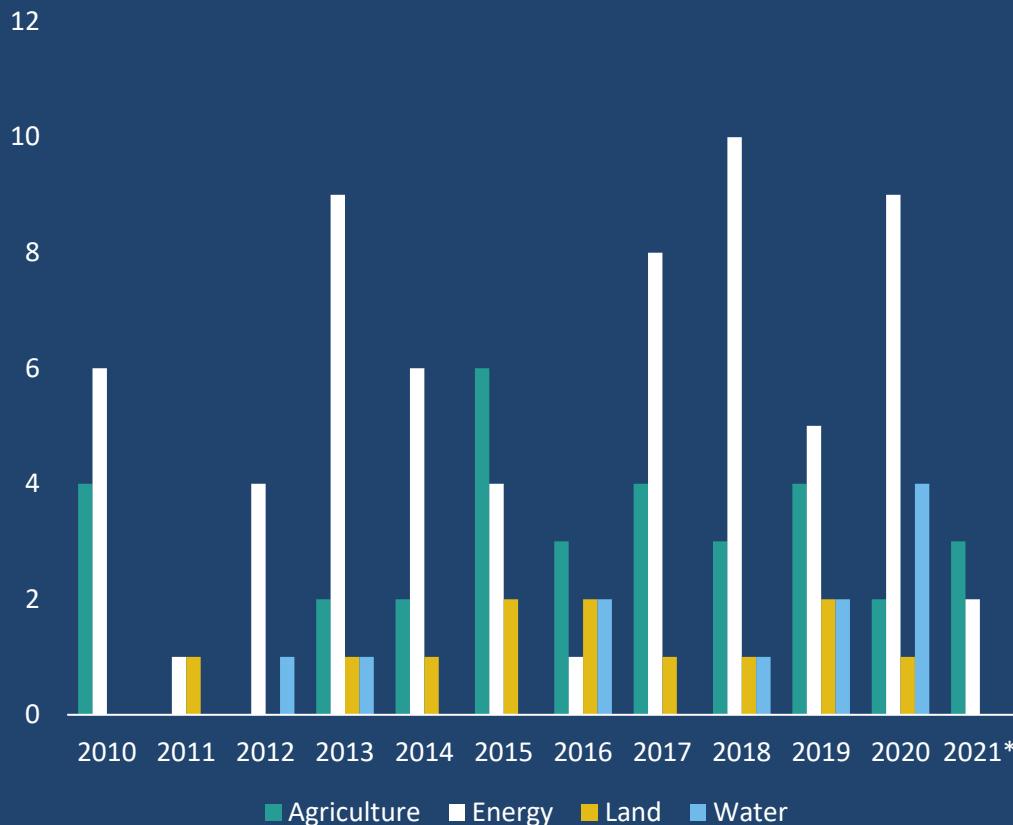
Source: Morningstar | Geography: US

*As of August 31, 2021

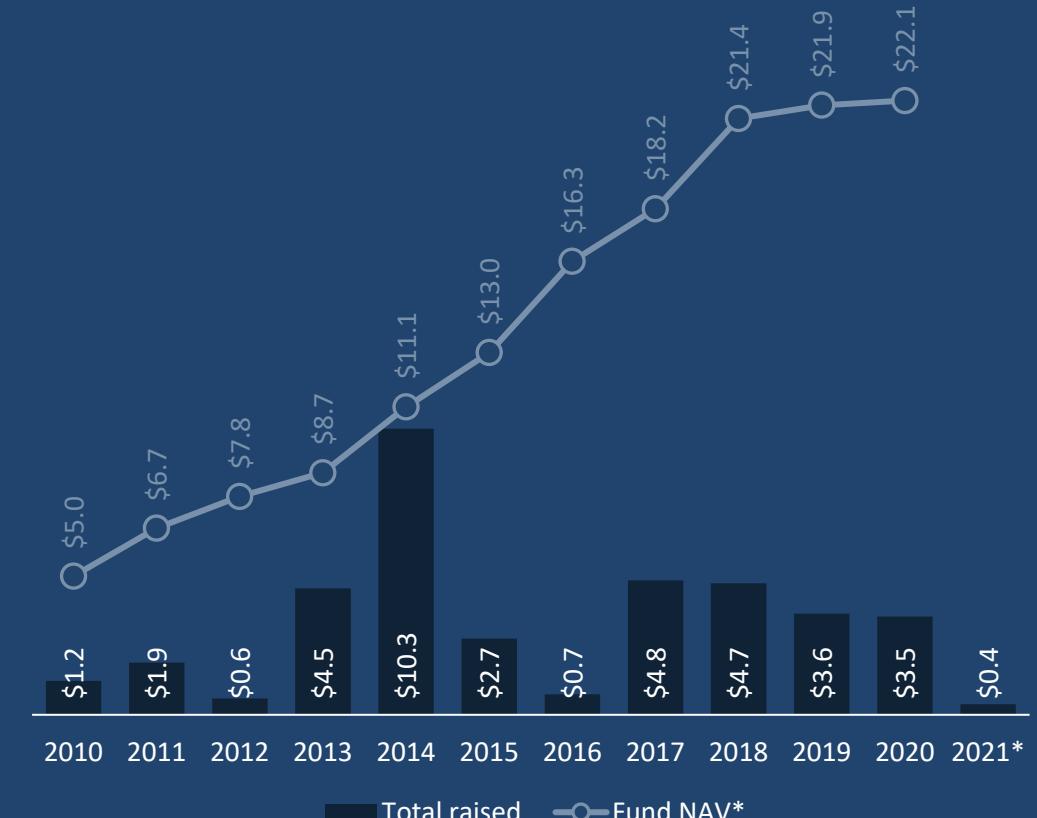


We recently introduced impact tags to funds raising capital with a double bottom line. Funds focused on clean energy and agriculture have led the real asset impact fundraising.

Real asset impact-focused fund closings (#)



Real asset impact-focused fundraising and NAV (\$B)



Source: PitchBook, Global Impact Investing Network | Geography: US

*Fundraising as of June 30, 2021; fund NAV as of December 31, 2020



Debt markets



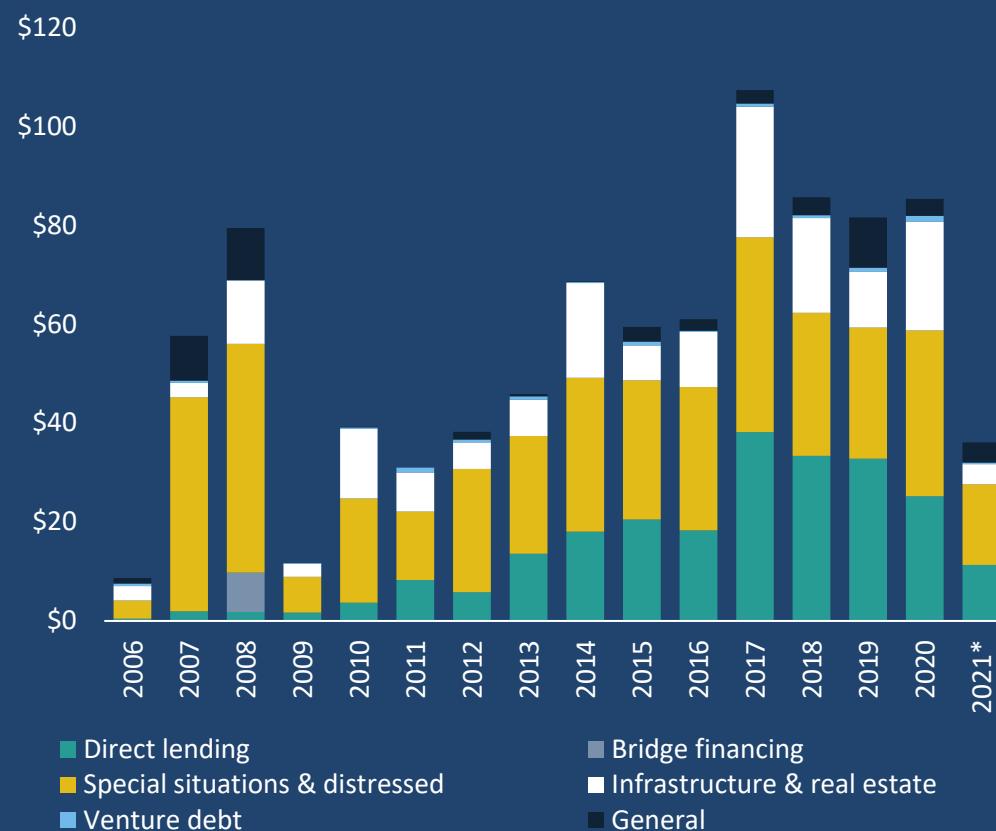
Key takeaways

- Private debt fundraising had a small rebound in 2020 over 2019, though 2021 is on a slow pace through the first half of the year.
- Direct lending and special situations & distressed funds continue to be the most popular of the lending strategies in closed-end funds, with the former hitting 20% higher fund NAV at the end of 2020 versus 2019.
- Traditional lenders reported the strongest net percentage of banks loosening of credit standards for small-to-large firms in at least two decades—a reflection of increasing capital available to borrowers.
- Following a brief trough in early 2020, average debt on PE buyout deals ticked up, coinciding with a downward reversal in high-yield bond rates over the same period.
- The relationship between high-yield bond rate movements and next-12-month debt percentage on buyout deals suggests that the current lows in high-yield corporates portend a continued rise in debt loads on PE transactions.

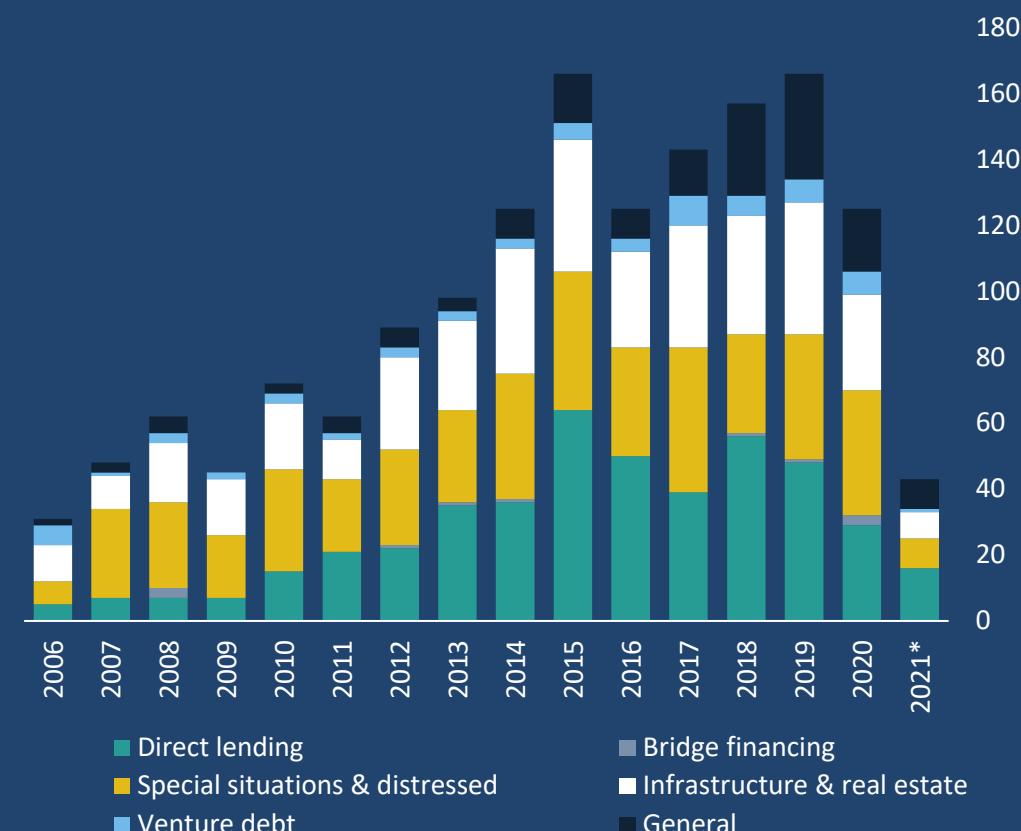


Debt funds continue to garner interest from investors looking for fixed-income exposure, with a higher yield opportunity that is attractive in the current rate environment.

Debt fund capital raised (\$B) by strategy



Debt fund closings (#) by strategy



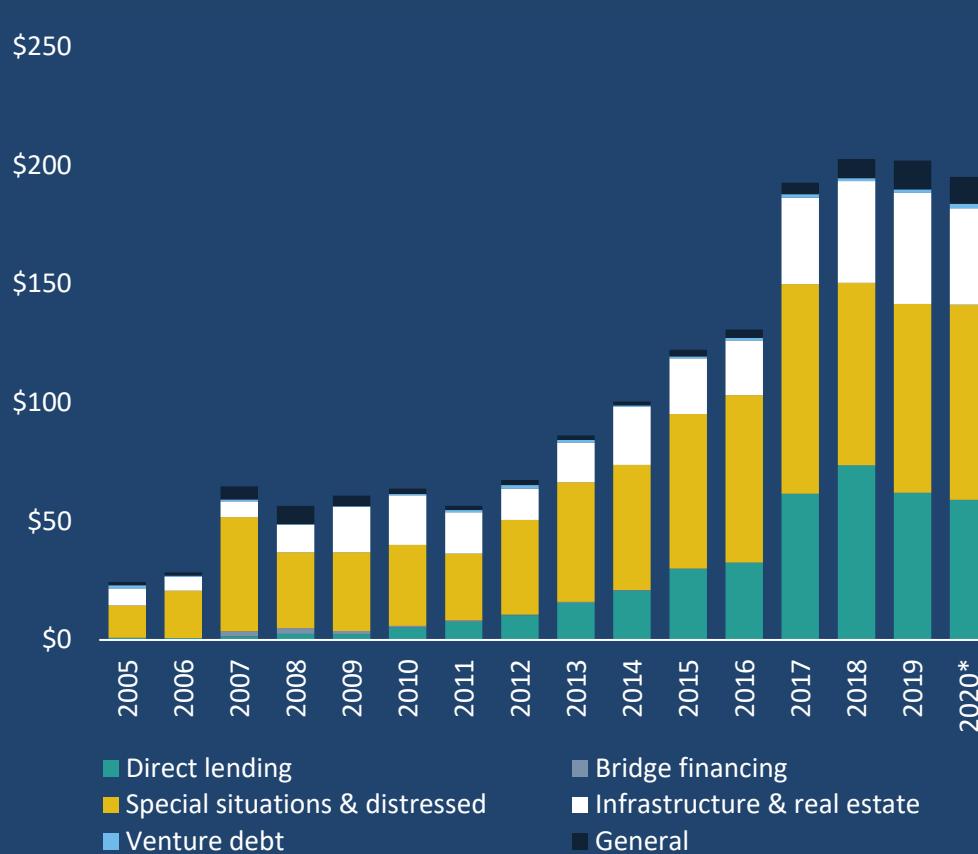
Source: PitchBook | Geography: US

*As of June 30, 2021

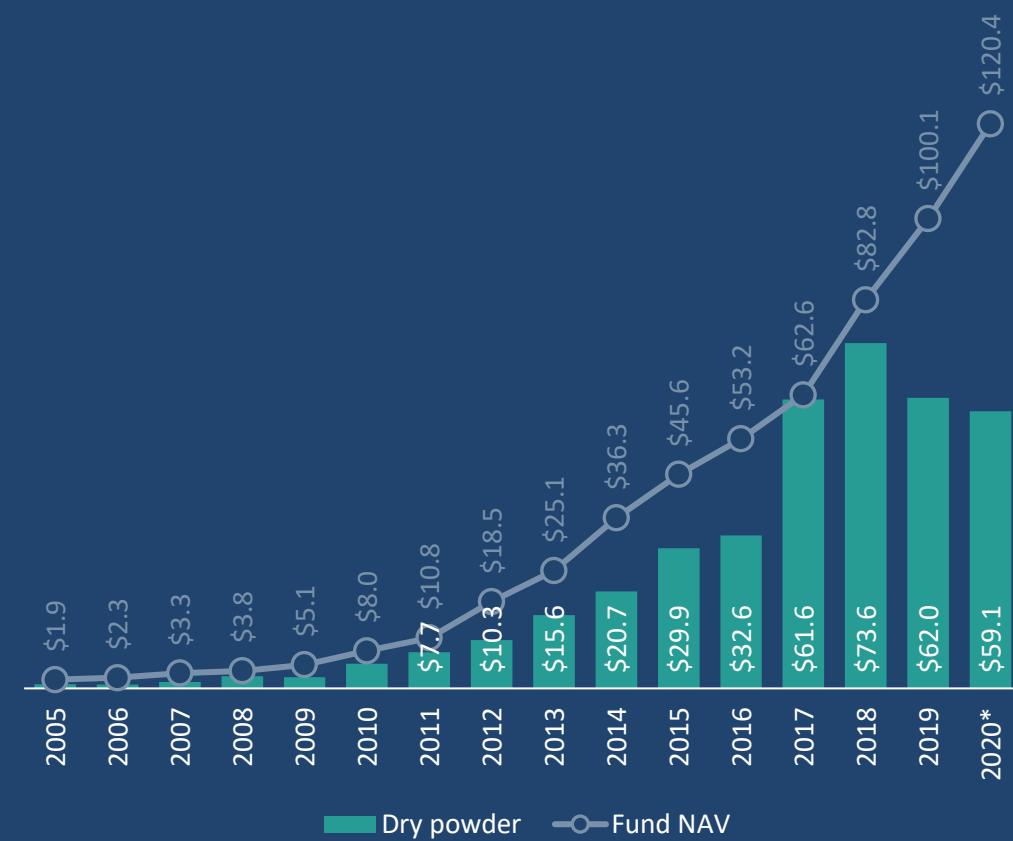


Debt fund dry powder remains near all-time highs, as direct lending is finding ways to supplant bank lending to midsized private companies...

Dry powder (\$B) by strategy



Direct lending dry powder and NAV (\$B)



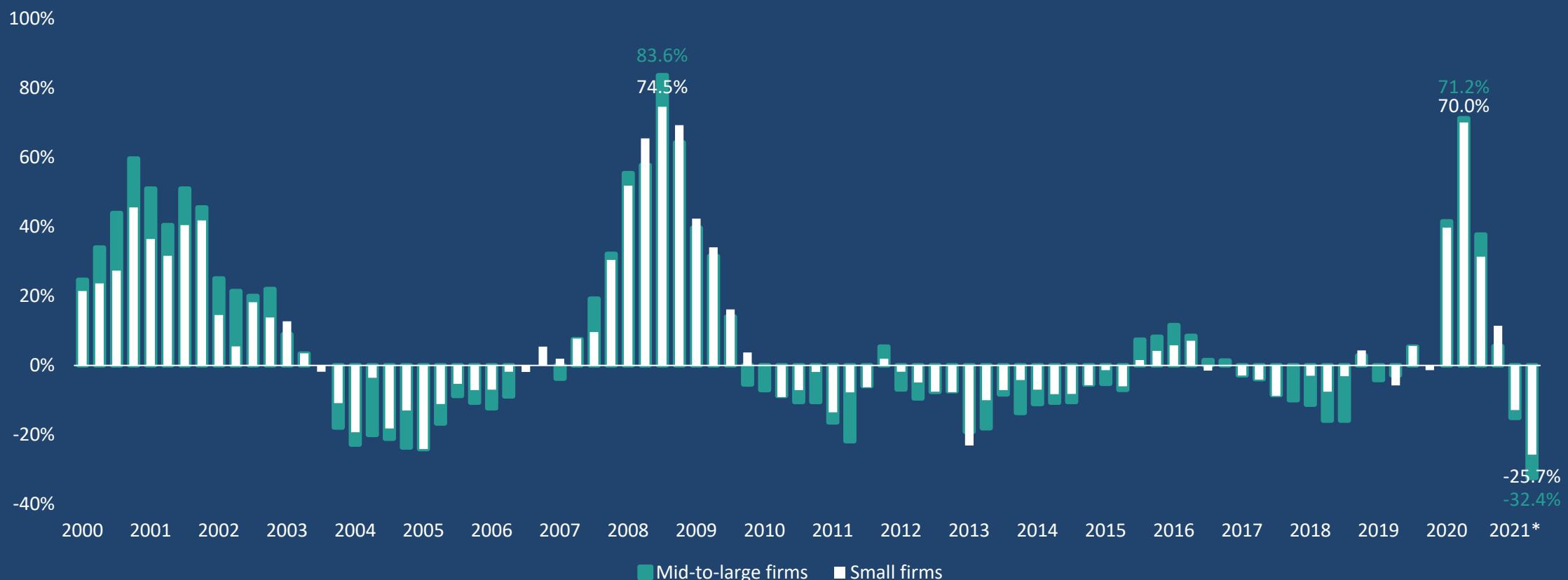
Source: PitchBook | Geography: US

*As of December 31, 2020



...and a 2020 spike in term requirements imposed by banks may have opened the door further to direct lending funds, but Q2 2021 saw a large net percentage of banks loosening standards.

Net percentage of banks tightening standards on loans to small and mid-to-large firms



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

*As of June 30, 2021



The debt percentage on buyout deals tracks loosely with rates on high-yield corporate bonds. With bond yields at all-time lows, debt on deals has been ticking up since March 2020.

Average debt percentage on buyout deals compared with high-yield corporate bonds



Source: PitchBook, FRED | Geography: US

*As of August 31, 2021

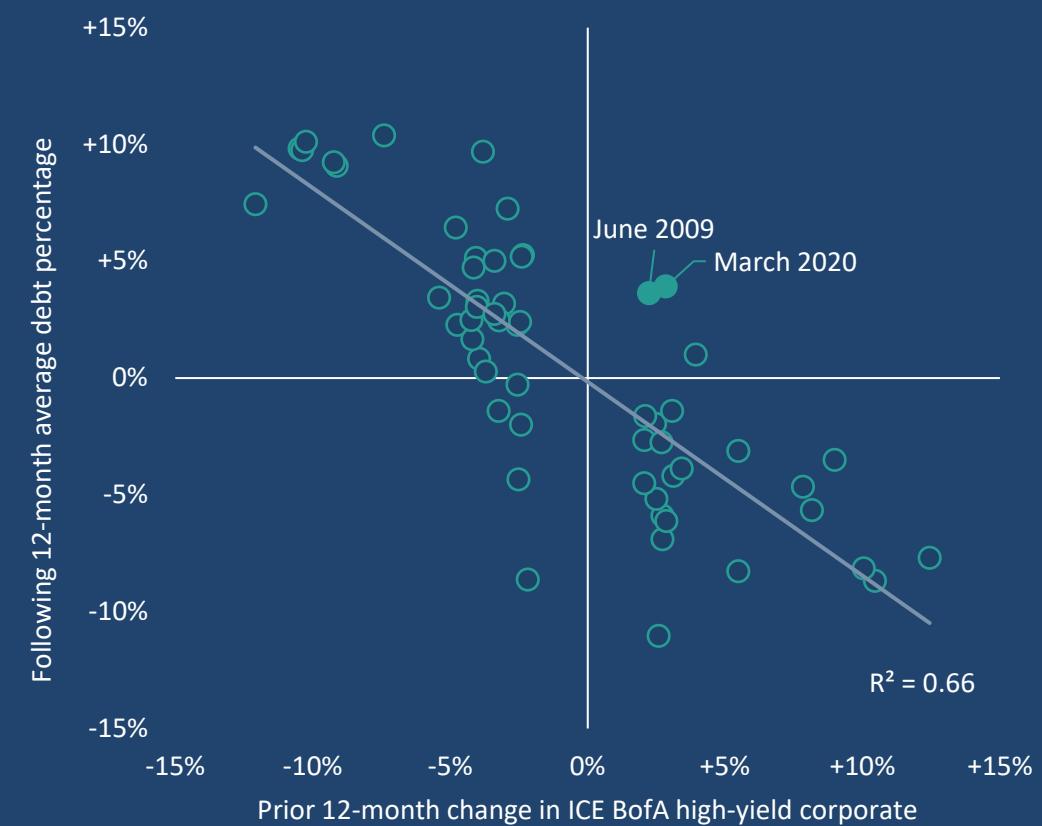


Corporate yields can be an indicator for buyout debt levels. When yields move 250 basis points or more in a one-year period, it is often followed by a large move in buyout debt percent.

*Change in high-yield corporate rate versus following 12-month change in average buyout debt percentage**



*Change in high-yield corporate rate of at least 250 basis points**



Source: PitchBook, FRED | Geography: US

*As of August 31, 2021

Additional research



[PitchBook Benchmarks
As of Q4 2020](#)



[US VC Valuations Report
Q2 2021](#)



[Analyst Note: Introducing the VC
Dealmaking Indicator
Q2 2021](#)



[Global Fund Performance Report
As of Q4 2020](#)



[Global Private Debt Report
H1 2021](#)



[Analyst Note: Private Equity
Barometer
Q1 2021](#)



[Private Fund Strategies Report
Q2 2021](#)



[Global Real Estate Report
H2 2020](#)



[Analyst Note: VC Returns by Series:
Part III
Q3 2021](#)



[US PE Middle Market Report
Q2 2021](#)



[Real Assets Report
Q1 2021](#)



[Sustainable Investment Survey
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