PitchBook

QUANTITATIVE PERSPECTIVES

US PE: Recovery and Beyond

Q4 2021

US PE: Recovery and Beyond

Introduction

More than 18 months have passed since the world and financial markets were thrown into disarray as a result of the COVID-19 pandemic. While life has still not fully returned to normal for most, in many ways, financial assets and economies have not only recovered but have boomed in recent quarters. As highlighted in the previous edition of this report, an unprecedented combination of fiscal spending and loose monetary policies has driven this boom. The stimulus has also led to some unique economic outcomes and potential risks to public and private markets, including rising inflation.

In this strong economic environment, US private equity (PE) has experienced its fastest pace of deal and exit activity in at least two decades. Cheap and abundant debt has propelled PE dealmaking, while PE-backed exits have boomed on the back of one of the hottest IPO markets since the early 2000s. Over the past year, PE funds have posted their best returns on record, but unrealized gains have driven much of these returns.

Research

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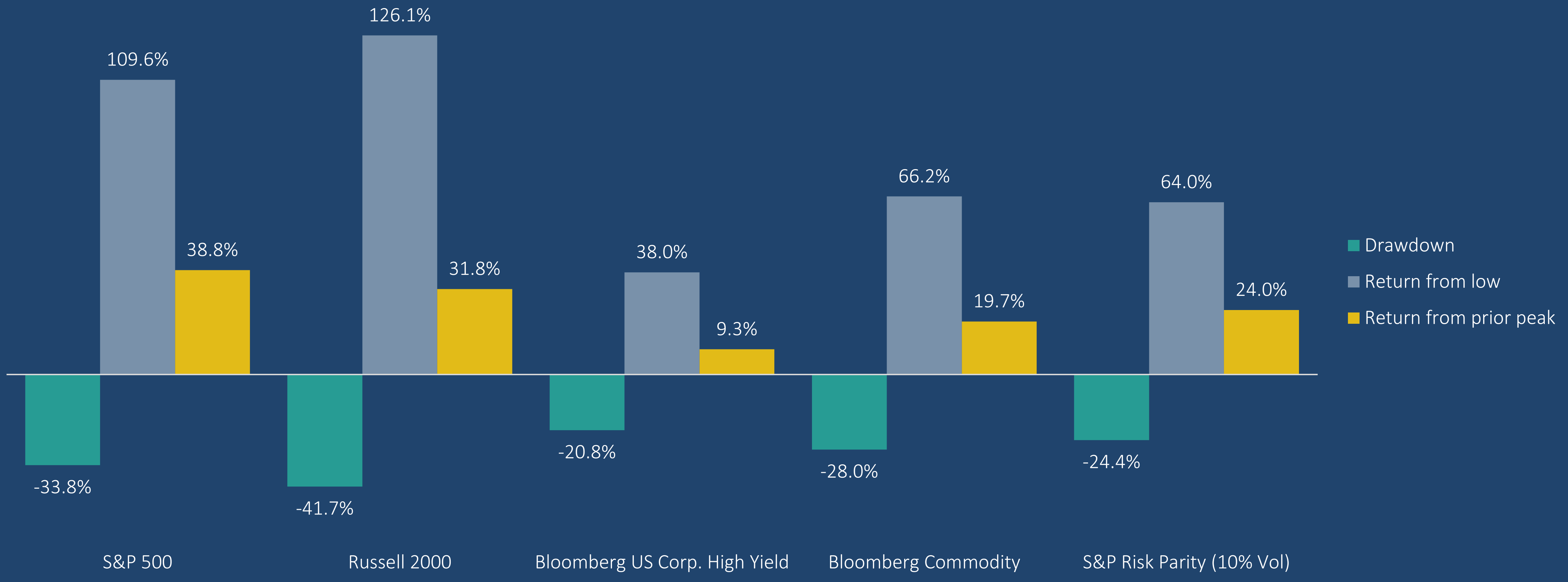
The market landscape

Key takeaways

- Public market risk assets, from equities to credit, have performed well even relative to pre-COVID-19 peaks, suggesting we have moved past the recovery stage of the cycle.
- High valuations across asset classes have driven long-term expected returns even lower. Only PE and emerging market equity have 10-year expected returns above the average US state pension's required return of 7.0%.
- Real economic output is close to pre-COVID-19 trend levels, but growth has already slowed in recent quarters, and there are several risks to the economic outlook.
- On the back of an unprecedented combination of fiscal spending and loose monetary policies, as well as supply chain disruptions, inflation has risen to its highest rate in 30 years.
- By analyzing data all the way back to the 1960s, we found that while public equities recorded positive real returns during periods of rising inflation, average monthly real returns were halved—and were even lower when economic growth was falling.
- Rising inflation has prompted the market to reassess its expected path of interest rate hikes from the Federal Reserve. The market is expecting at least two hikes by the end of 2022.
- Despite a still-elevated headline unemployment rate compared to pre-COVID levels, the labor market is extremely tight based on some measures, including 3 million more job openings than total unemployed persons.

Public market risk assets have surged off 2020 lows and have recorded double-digit gains from pre-COVID-19 peaks, suggesting we have moved past the recovery stage of the cycle.

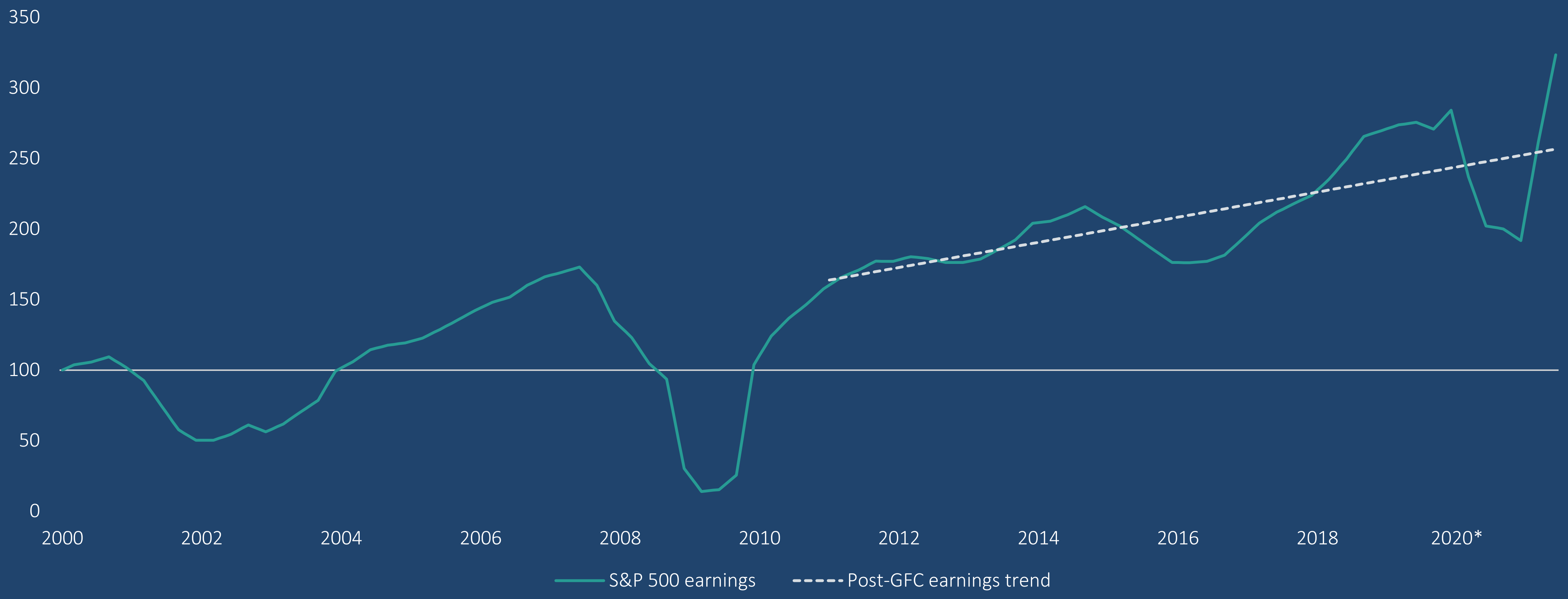
Drawdowns and returns by public market index*



Source: Morningstar | Geography: Global
*As of November 30, 2021
Note: Index lows were reached in March 2020.

Strong earnings growth has driven equity gains...

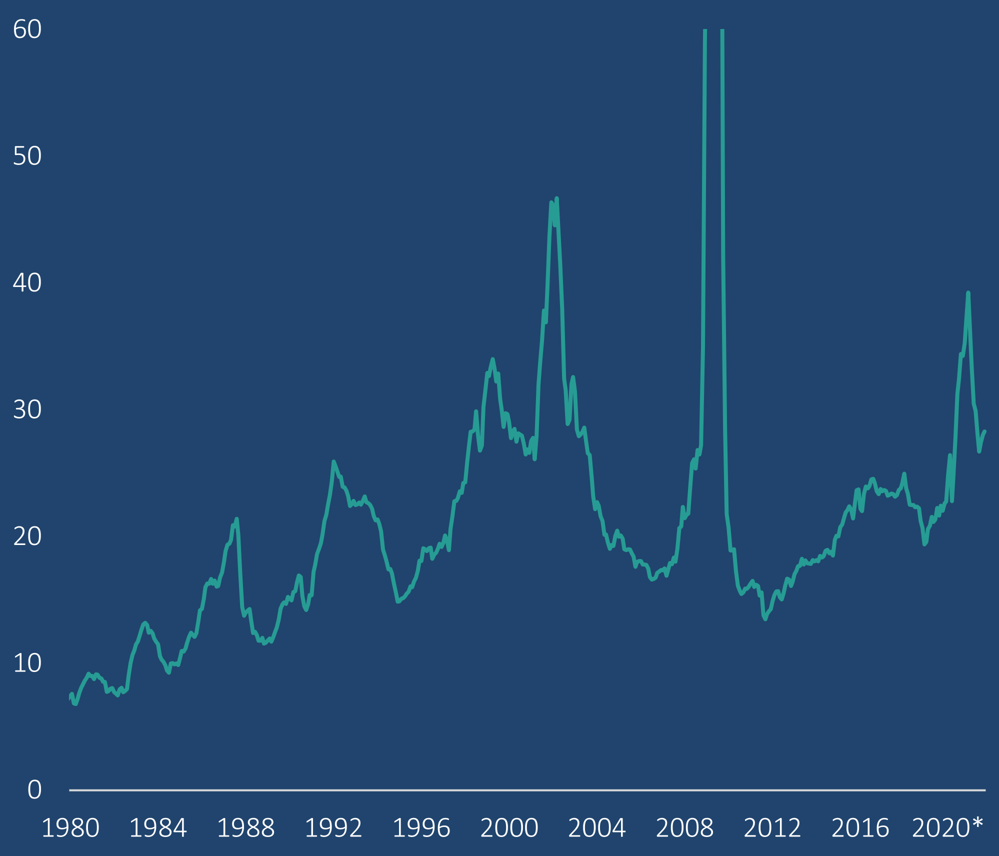
S&P 500 earnings (indexed to 100) with post-GFC (global financial crisis) trend



Source: Robert Shiller | Geography: US
*As of June 30, 2021

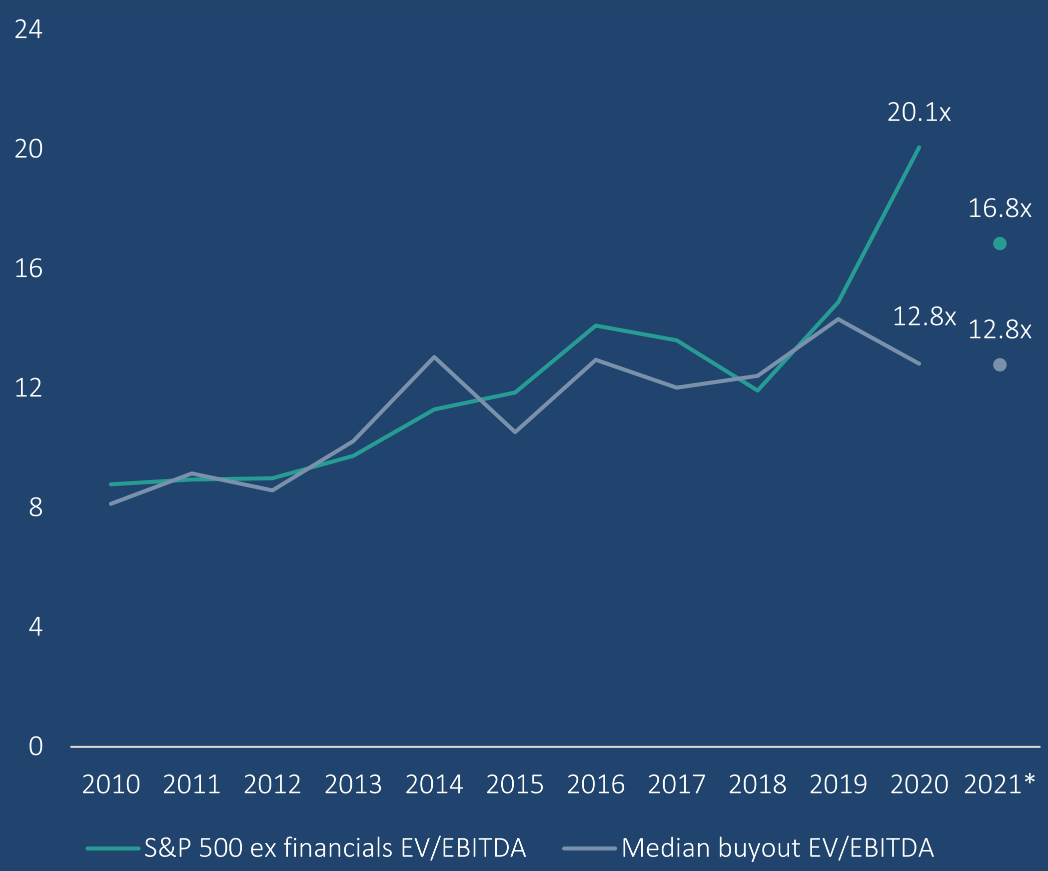
…but equity valuations remain elevated, especially in public equities.

S&P 500 trailing price to earnings ratio



Source: Robert Shiller | Geography: US
*As of September 30, 2021

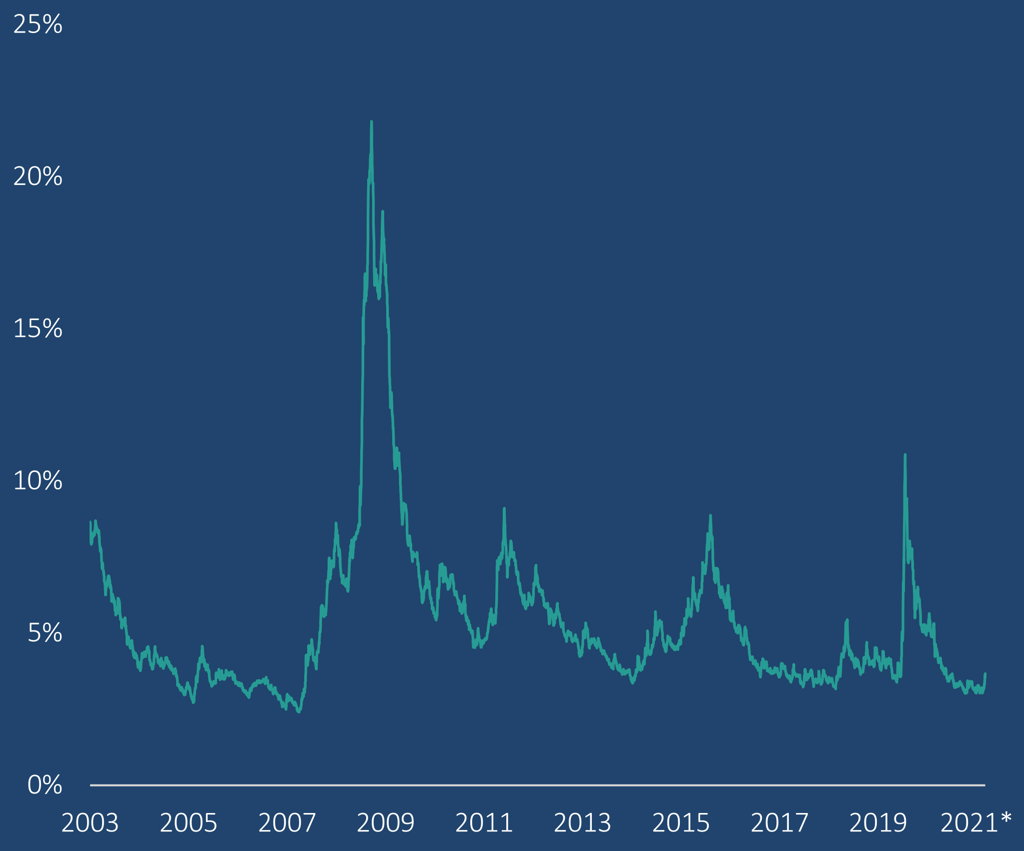
Public and private EV/EBITDA multiples



Source: PitchBook, Morningstar, iShares | Geography: US
*As of September 30, 2021

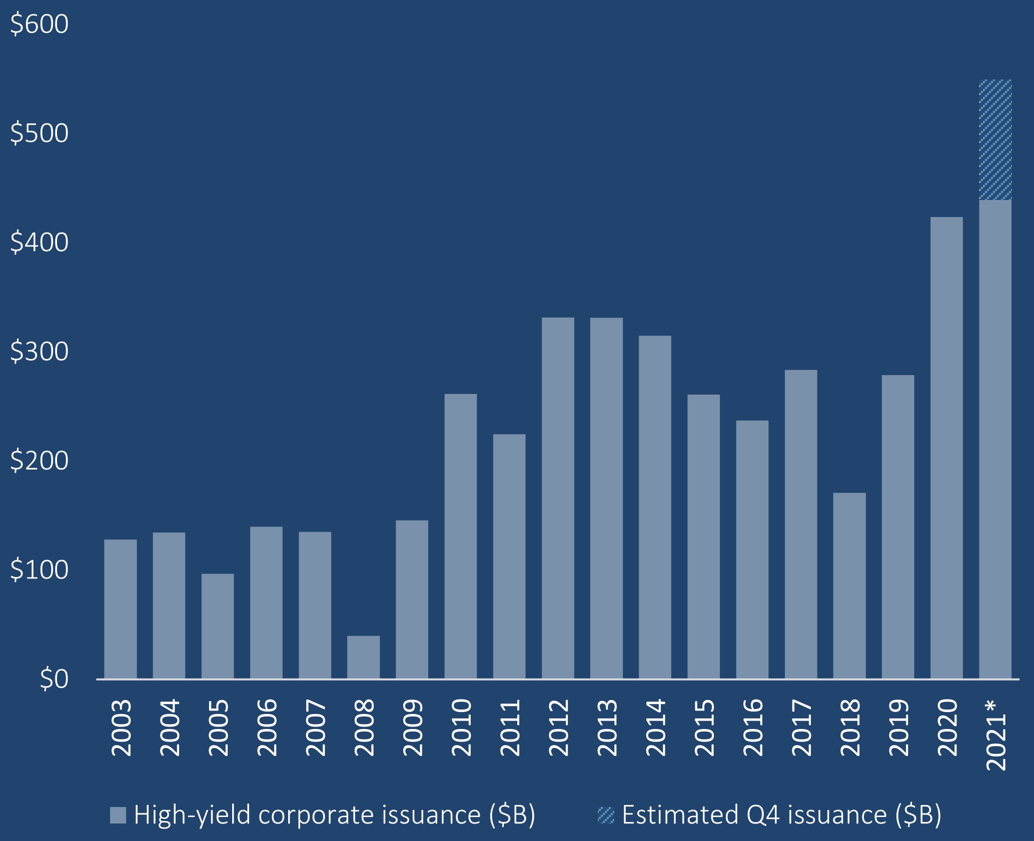
Meanwhile, debt markets also continue to run hot as historically cheap lending costs have helped lead to ample new issuance of risky debt.

Corporate high-yield option-adjusted spreads



Source: ICE BofA Indices | Geography: US
*As of November 30, 2021

Corporate high-yield issuance ($B)

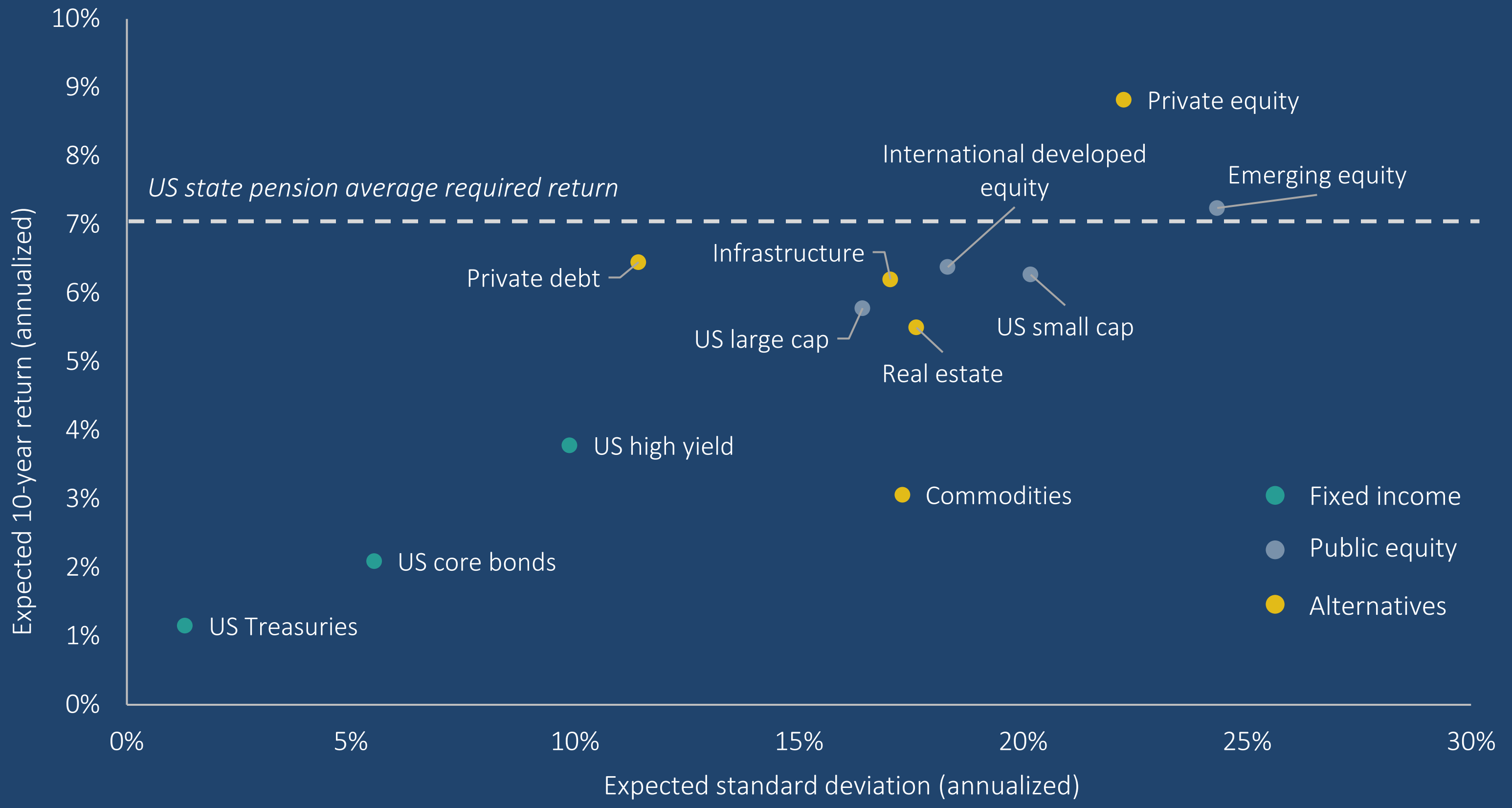


Source: Sifma | Geography: US
*As of September 30, 2021

Note: Estimated 2021 issuance is based on an extrapolation of the first three quarters.

Institutional investors' long-term return expectations point to a challenging period ahead.

10-year capital market assumptions by asset class*



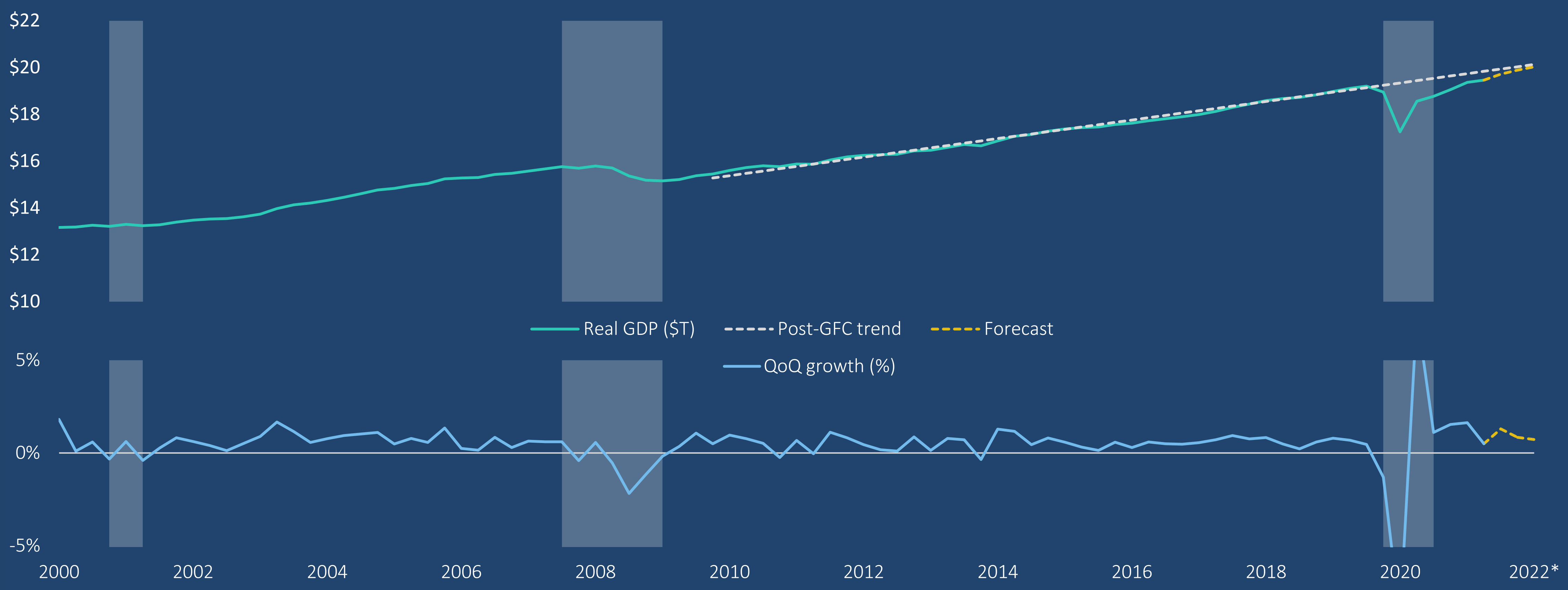
Source: Horizon Actuarial 2021 CMA Survey
*As of August 2021

The incredible performance over the past year and a half has continued to push return expectations lower—a trend that was already apparent well before the pandemic occurred. Returns have likely been "pulled forward," meaning that strong recent returns have come, in part, at the expense of future returns.

While institutional portfolios have benefited tremendously in recent periods from strong performance, meeting return targets over the next 10 years will be challenging. Only emerging market equity and PE have an expected return above the average US state pension's return target. Investors will likely need to increase risk through direct leverage, shifting allocations, or both.

Real GDP remains below its recent trend, and quarterly growth has slowed in 2021 after a sharp rebound in the latter half of 2020.

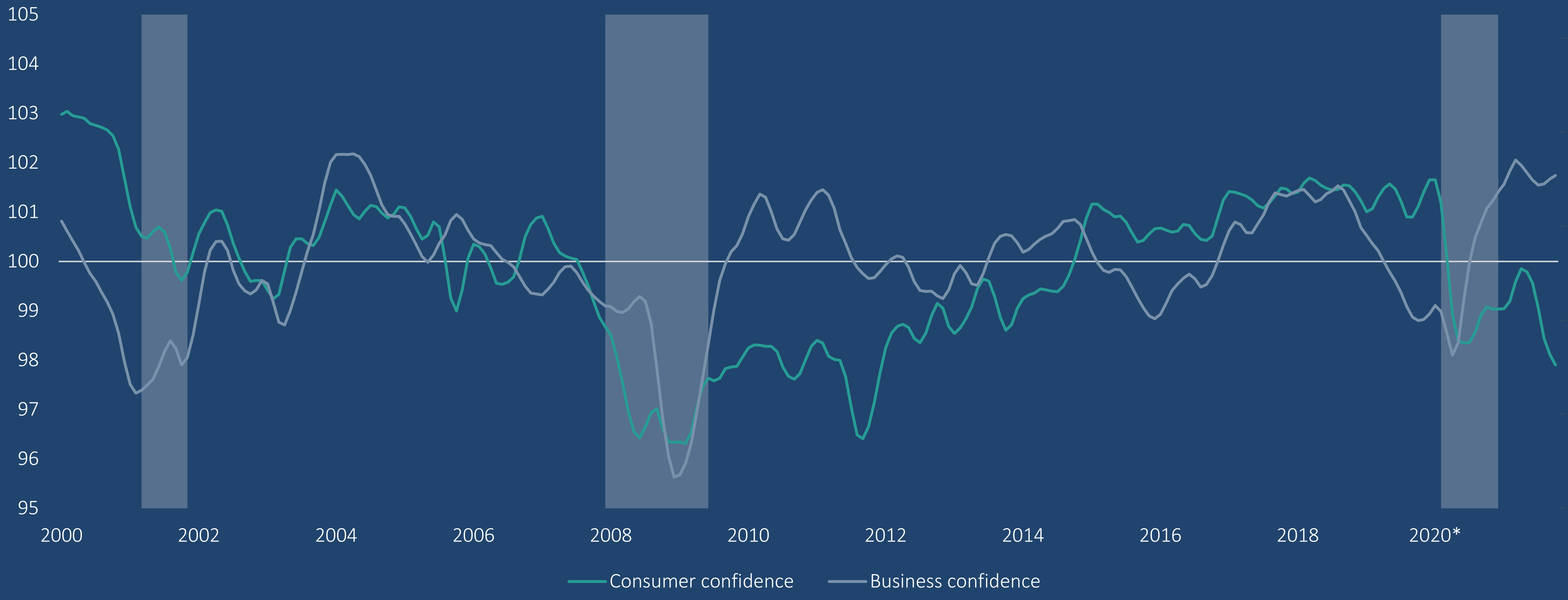
Real GDP with post-GFC trend and quarterly growth rate



Source: Bureau of Economic Analysis, Conference Board, PitchBook | Geography: US
*As of September 30, 2021
Note: Forecasts are shown for three quarters ending June 30, 2022.

While business confidence remains high, consumer confidence has fallen sharply. It is now worse than during the middle of the pandemic…

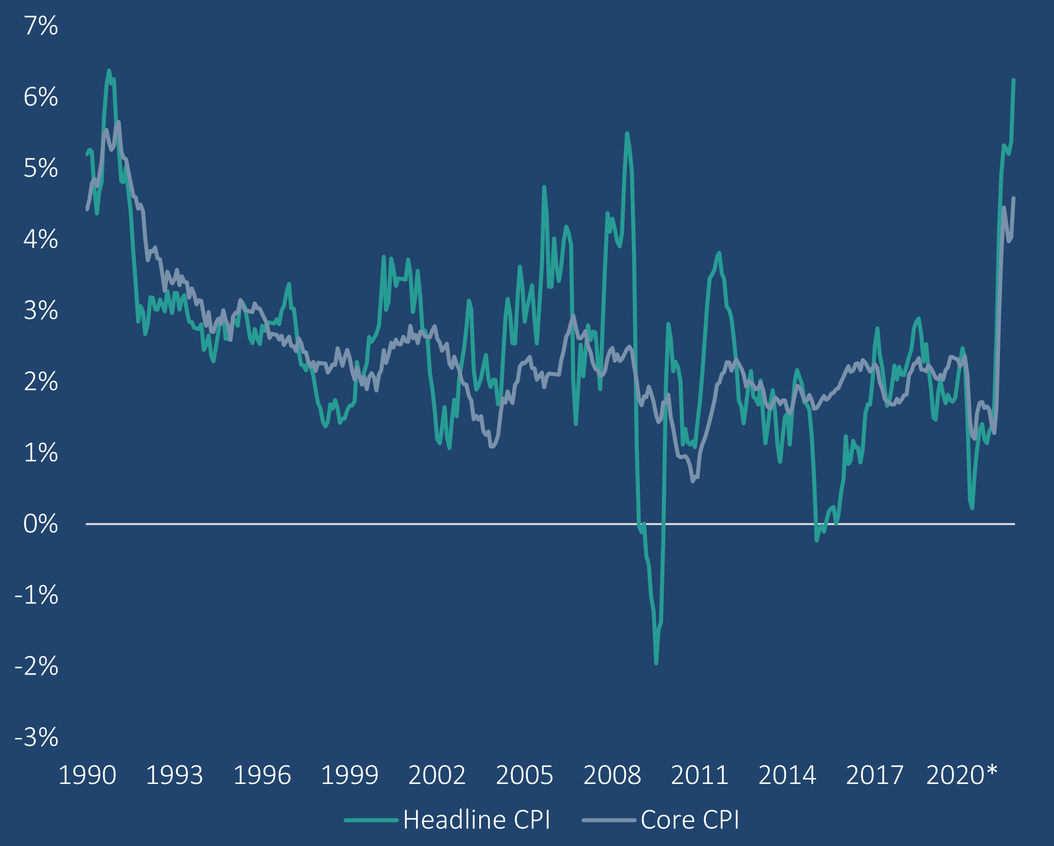
Consumer and business confidence indicators



Source: OECD | Geography: US
*As of October 31, 2021
Note: Please see Glossary on page 44 for explanations of data series used for this page and the following page.

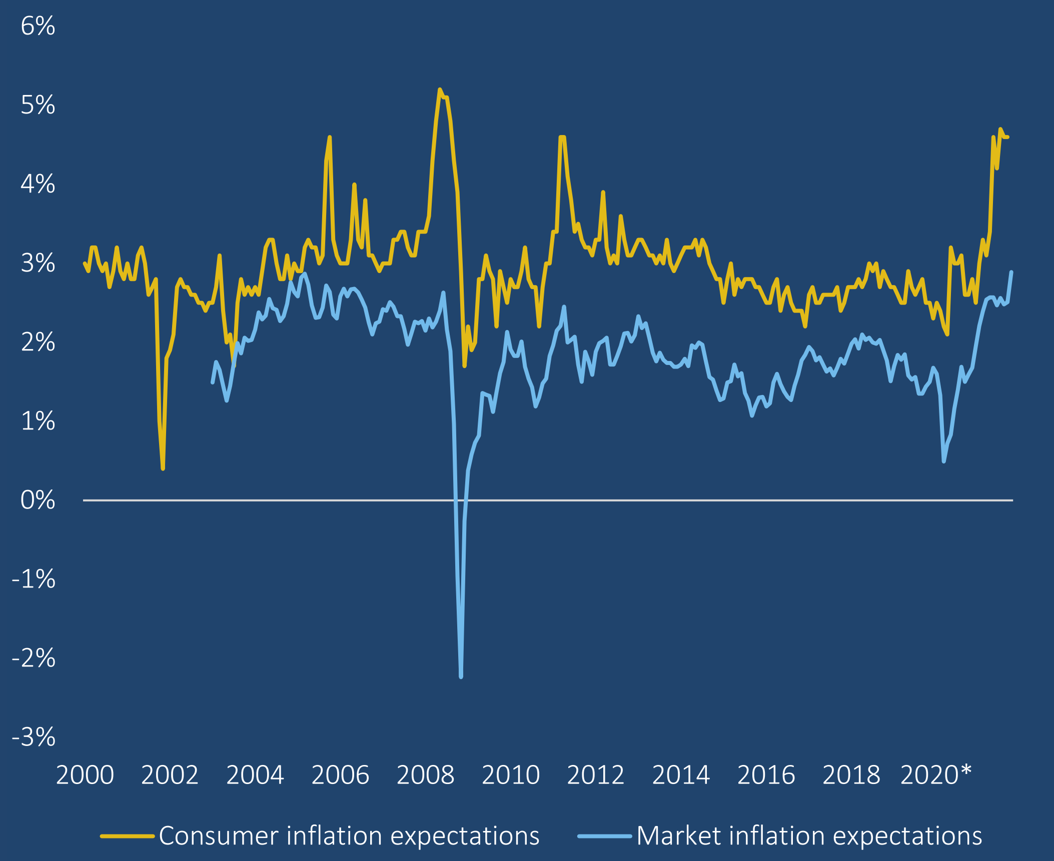
…due in part to the highest inflation rate in the last 30 years.

YoY change in the consumer price index (CPI)



Source: Bureau of Labor Services | Geography: US
*As of October 31, 2021

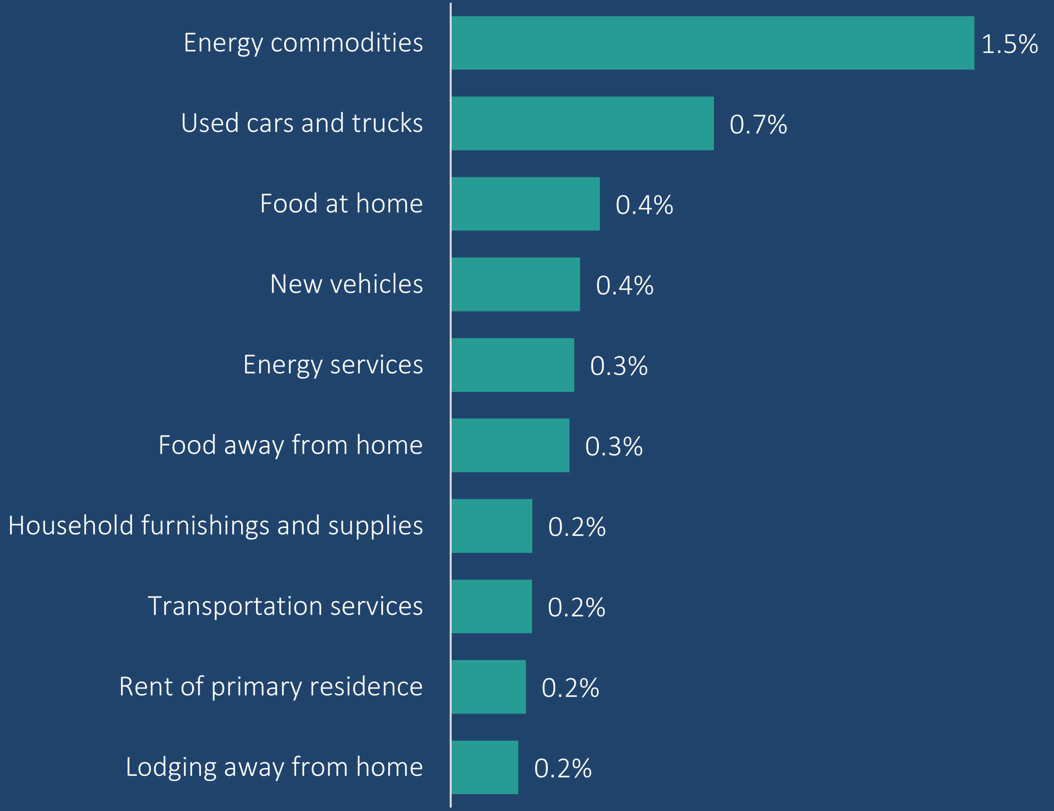
Consumer and market inflation expectations



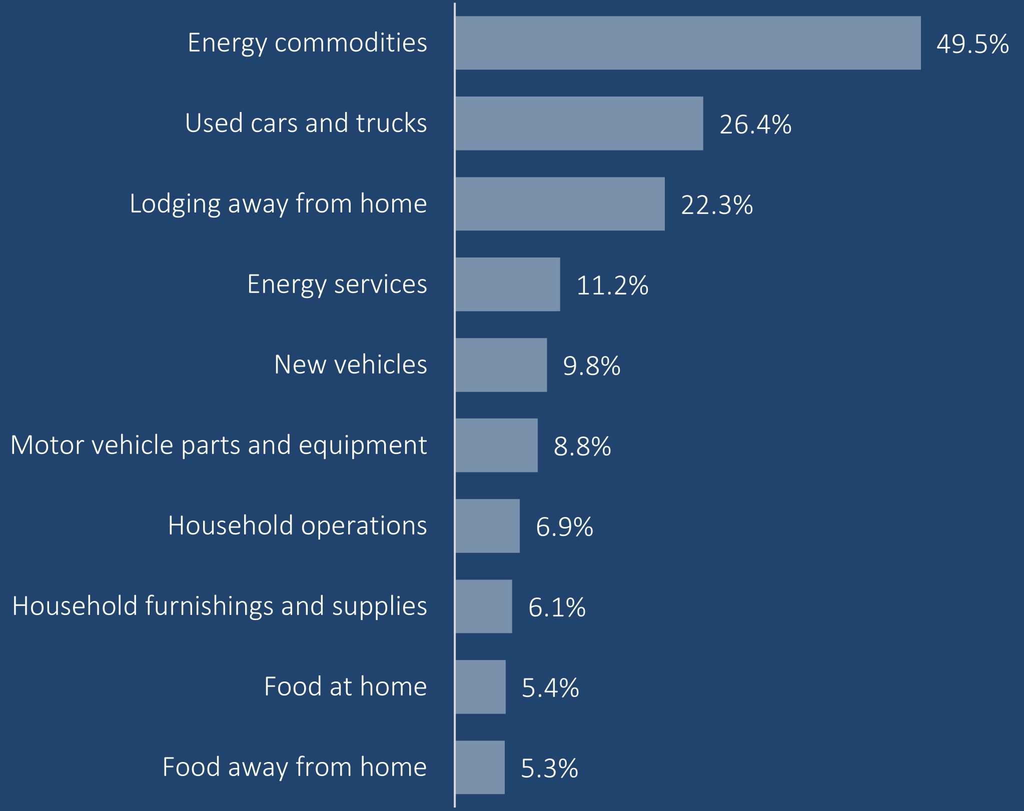
Source: FRED, University of Michigan | Geography: US
*As of October 31, 2021

Numerous factors have driven inflation higher, including loose monetary and fiscal policy, increased demand, and global supply constraints.

Contribution to YoY change in headline CPI*



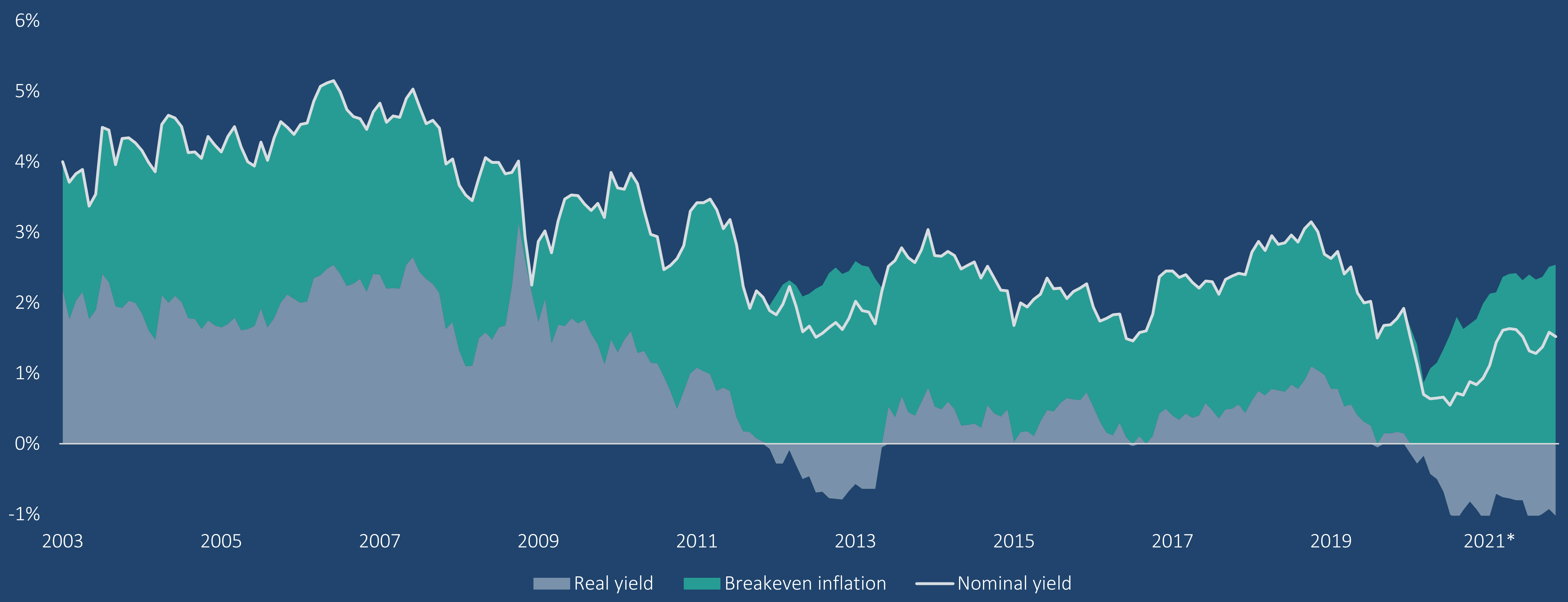
YoY change in price index*



Source: Bureau of Labor Services | Geography: US
*As of October 31, 2021

Falling real yields have offset increases in inflation expectations, such that the 10-year nominal Treasury yield remains below 2%.

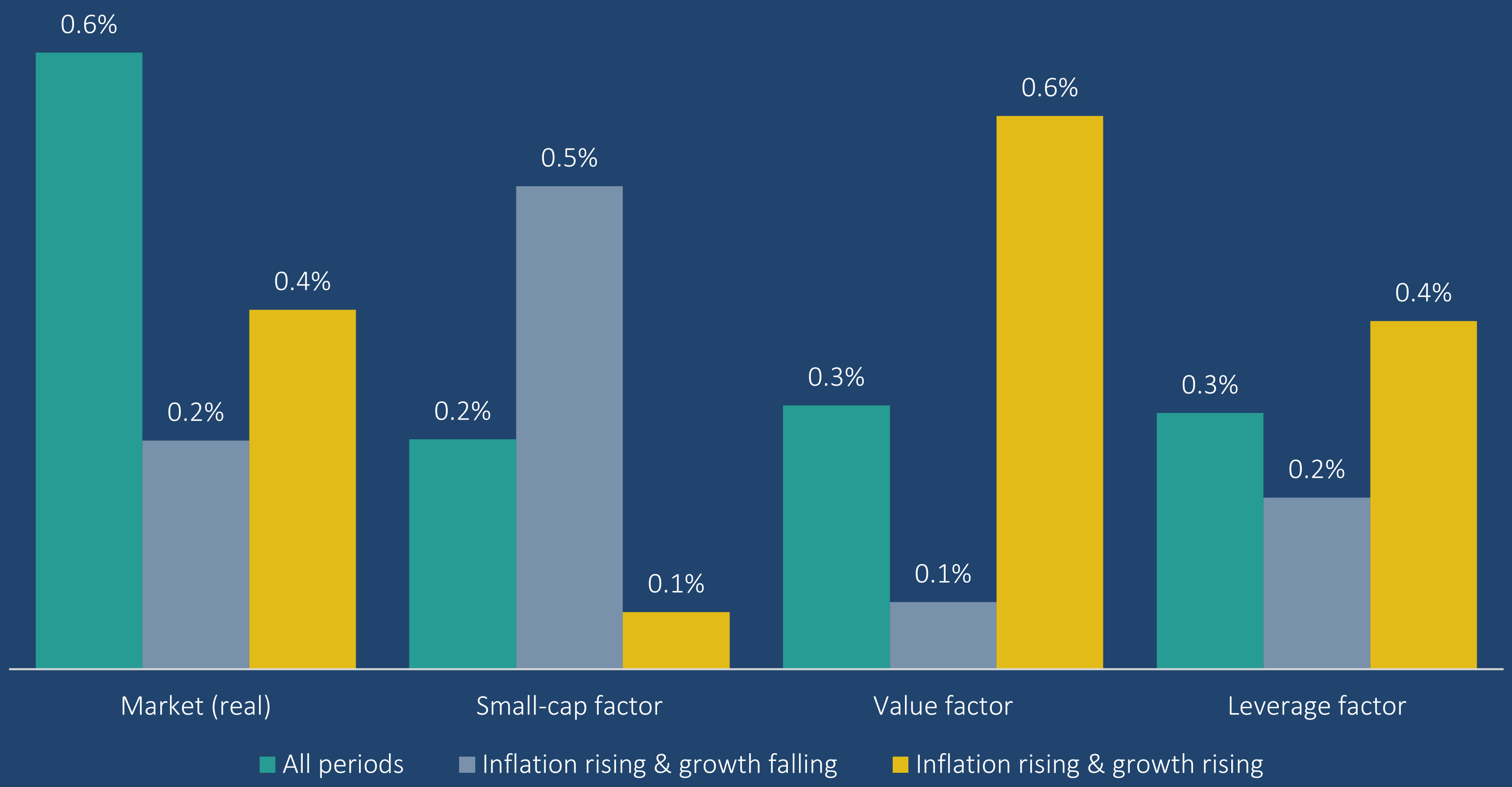
10-year Treasury yield attribution



Source: FRED | Geography: US
*As of November 30, 2021

Public equity returns during periods of rising inflation offer some insight into how PE could perform in an inflationary environment.

Average monthly returns (1963-present)*



Source: Kenneth R. French, PitchBook | Geography: US
*As of September 30, 2021

Without data to answer the question directly given that the most relevant periods of high inflation occurred in the 1970s and 1980s, we look to the public market to understand how PE could perform in a sustained period of high inflation.

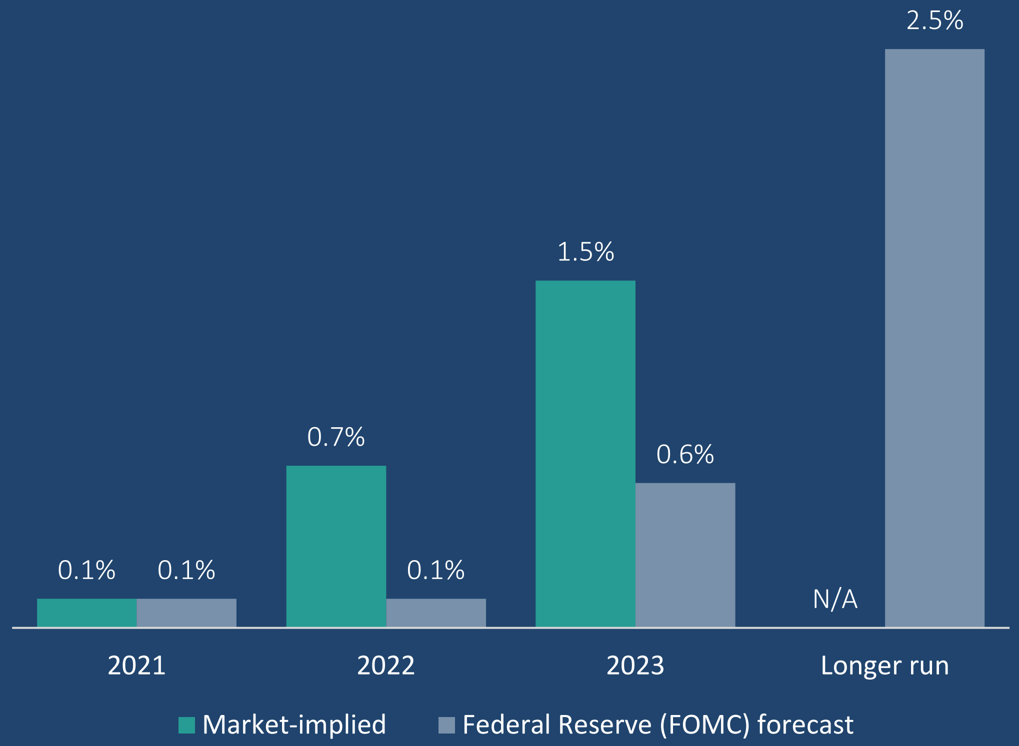
US public equities have seen positive real monthly returns in periods of rising inflation on average, but these returns have been significantly lower than the full period average. Additionally, average returns were doubled in periods when growth was also rising rather than falling.

Factor returns offer additional insight. Academic research has shown that PE tends to load positively on the small-cap and value factors and negatively on the leverage factor.

The growing risk of inflation has led the market to fast-track its expectations of interest rate hikes, which could be a headwind to asset valuations and economic growth.

Market-implied fed funds rate at year-end 2022

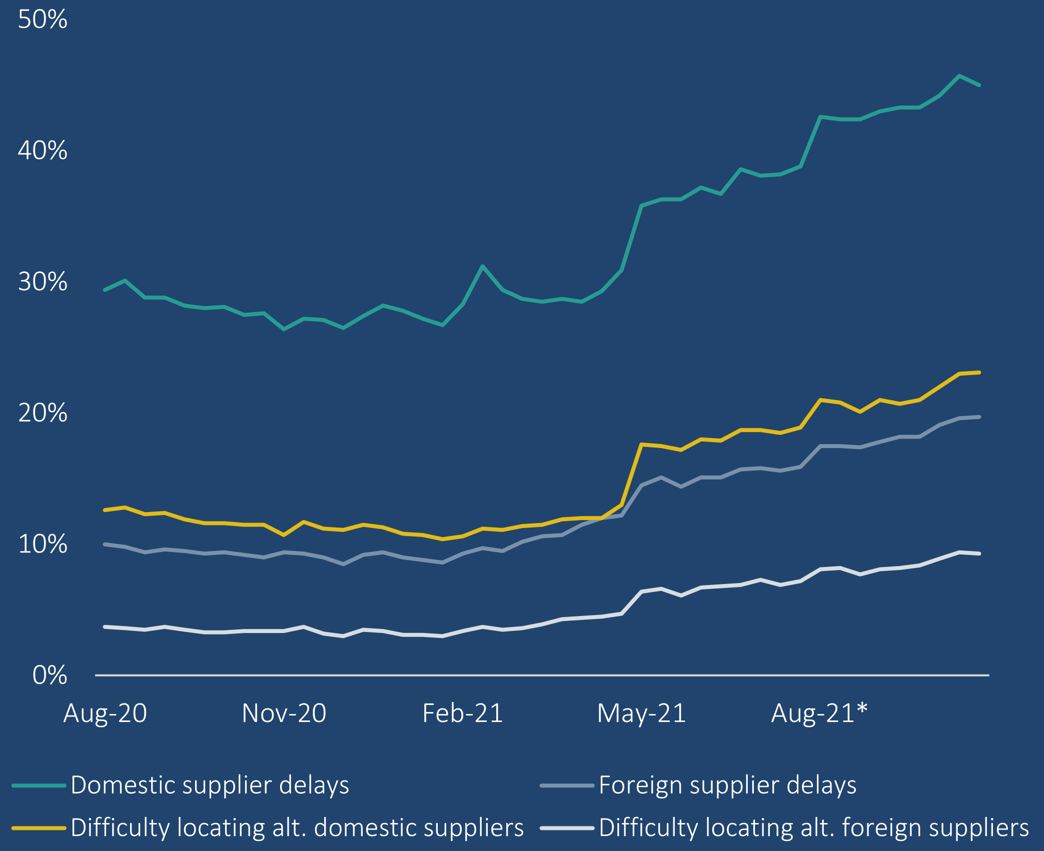
Year-end and longer run fed fund rate expectations*



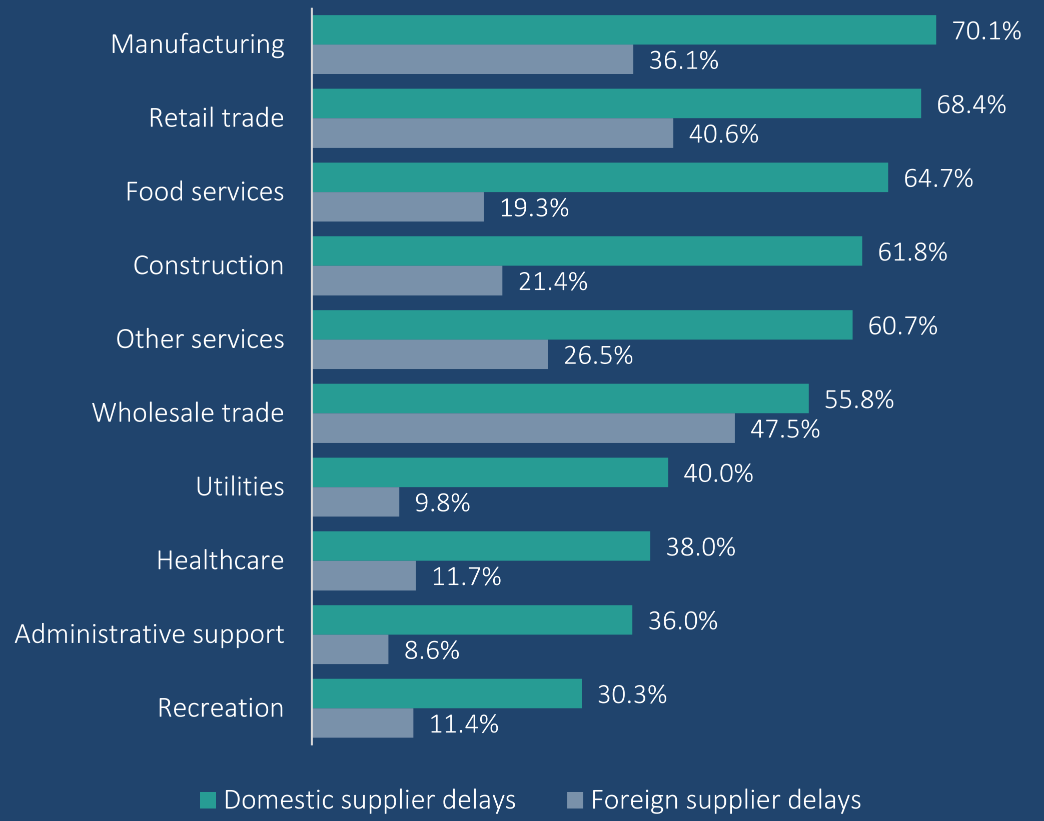
Source: CME Group | Geography: US
*As of November 30, 2021
Note: Please see Glossary on page 45 for explanation of metrics used.

Compared with November 2020, supply chain issues are worsening. This represents a significant risk to businesses and the overall economy.

Businesses reporting supply chain issues as a share of those surveyed



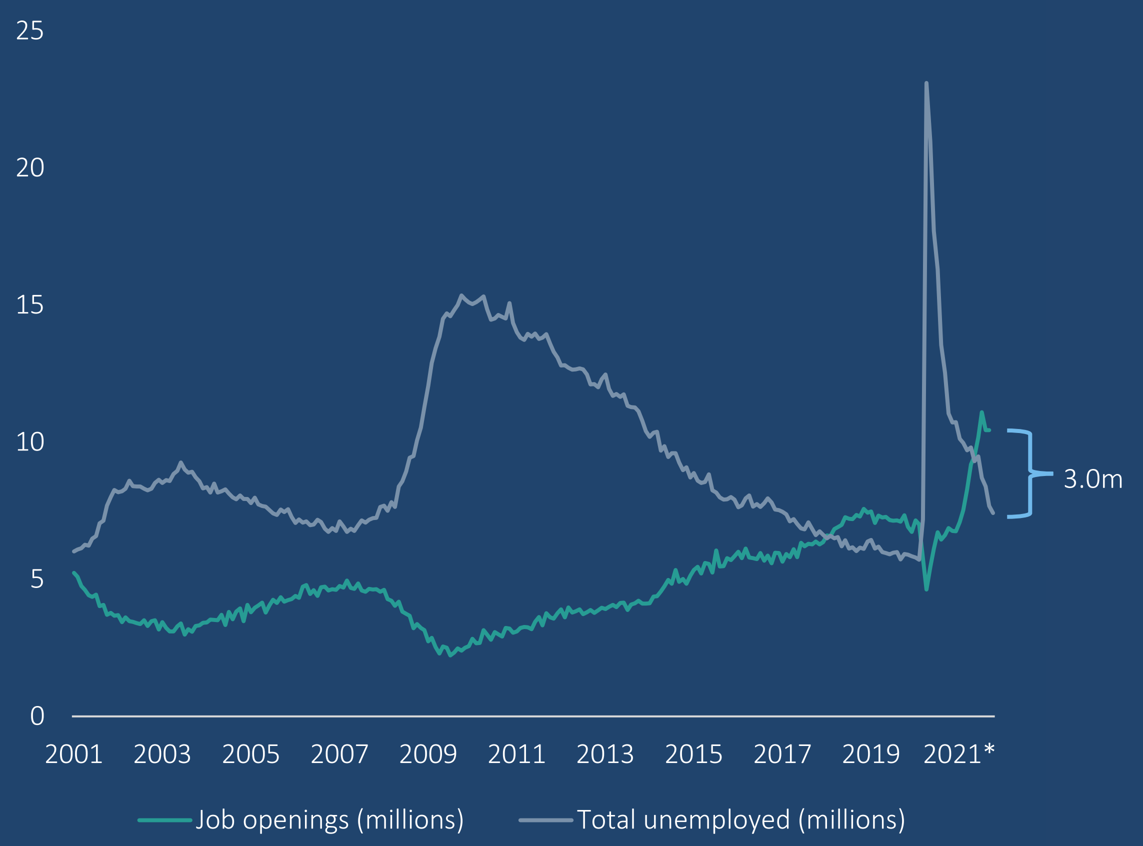
Share of businesses reporting supply chain issues by sector*



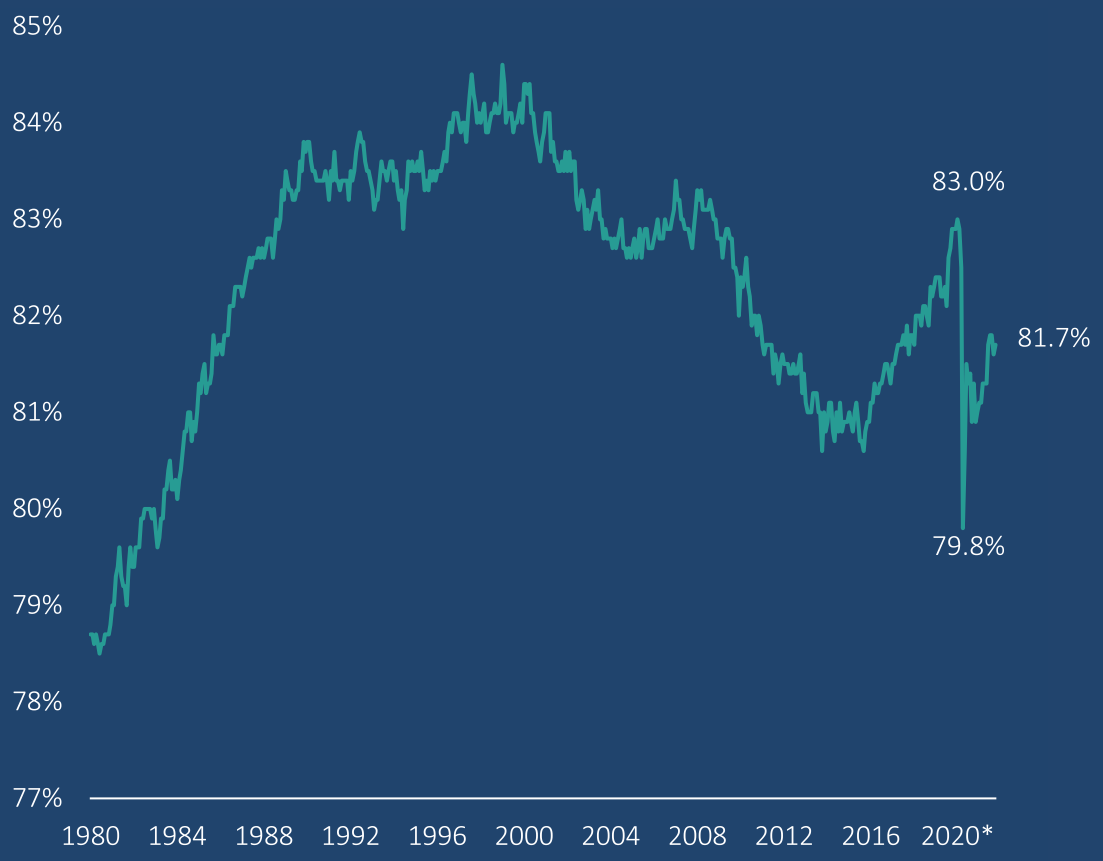
Source: US Census, Small Business Pulse Survey | Geography: US
*As of October 21, 2021

Labor market disruptions also pose a significant risk to the economy, as people have stayed out of the labor force despite a record number of job openings...

Job openings and total unemployed persons



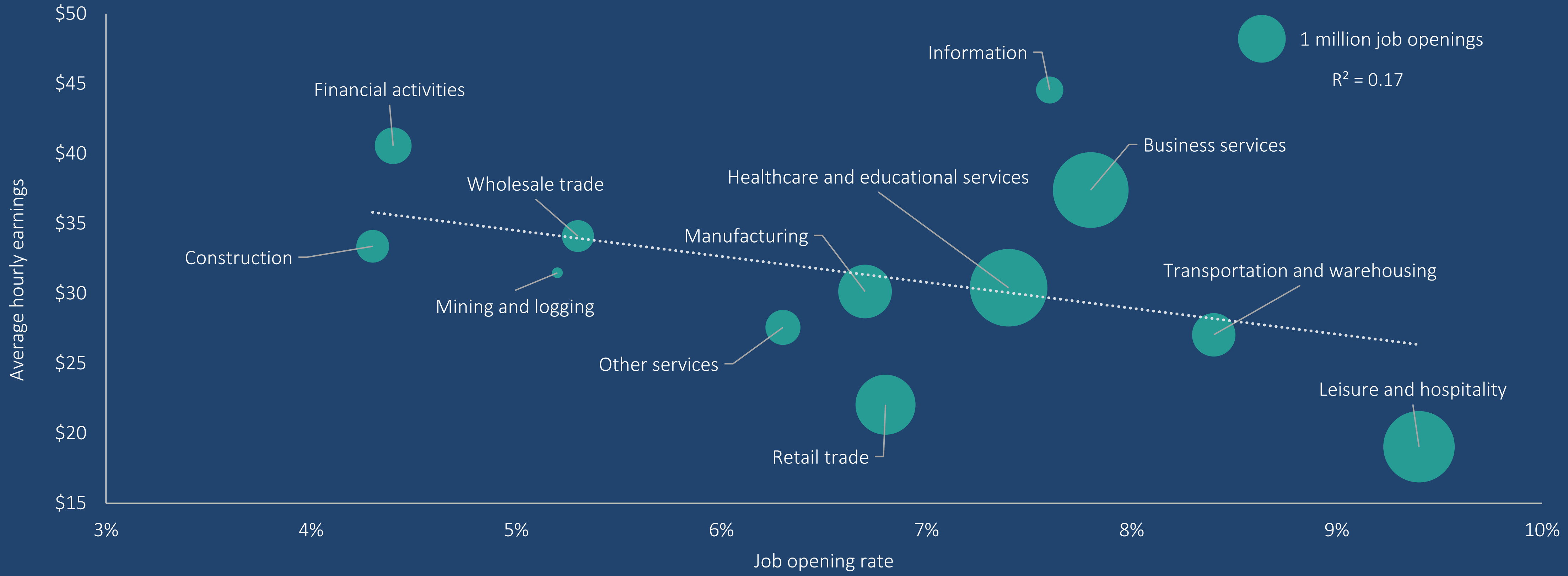
Core age (25-64) labor force participation rate



Source: Bureau of Labor Services | Geography: US
*As of October 31, 2021
Note: Job openings data is as of September 30, 2021.

…which reflects a disinterest in low-paying jobs, as well as high-contact services jobs such as those in leisure and hospitality.

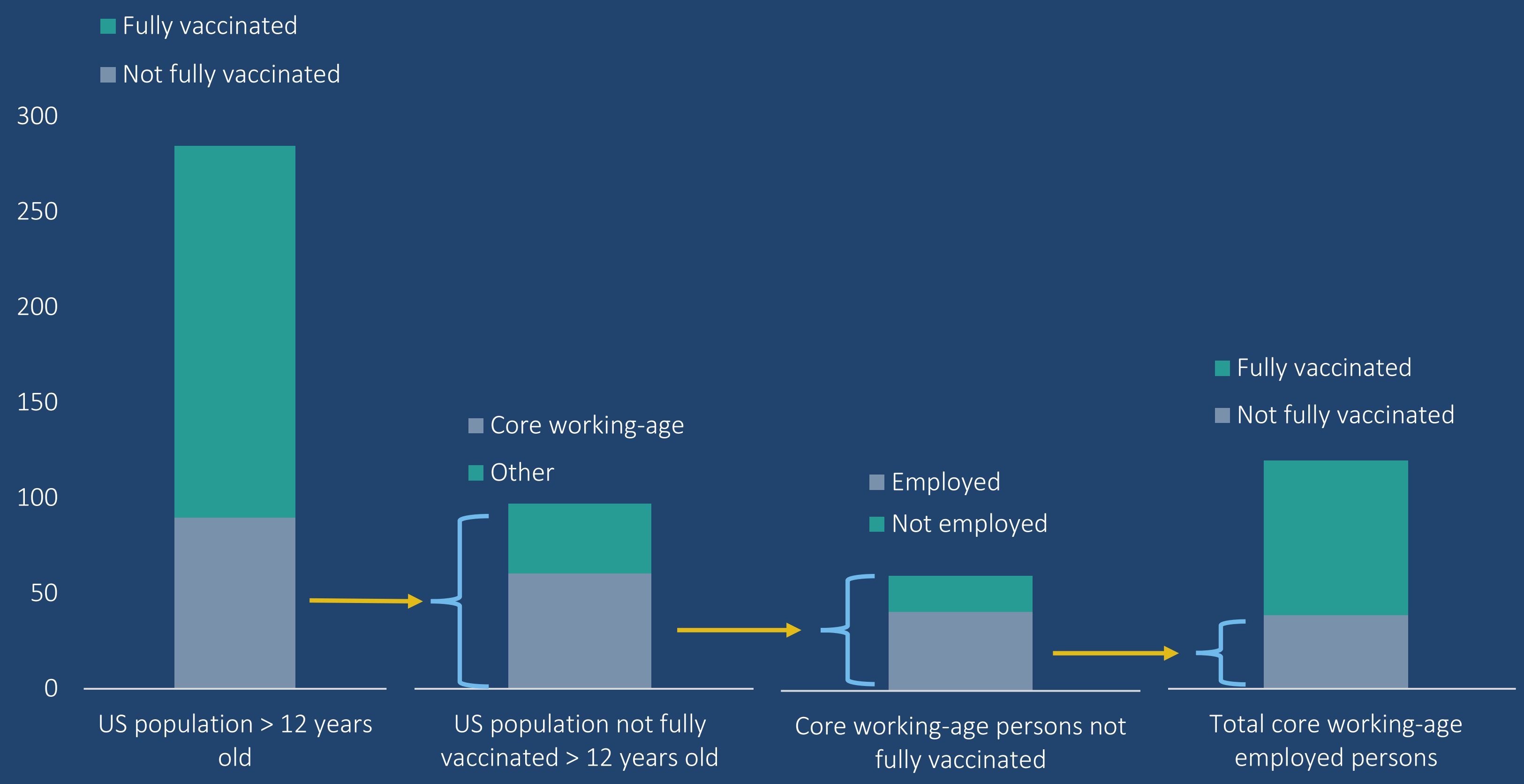
Rate of job openings and wages by sector*



Source: Bureau of Labor Services | Geography: US
*As of October 31, 2021
Note: Job openings data is as of September 30, 2020.

Vaccine mandates as a condition of employment have the potential to be a negative supply shock to an already tight labor market.

Estimated number (millions) of core working-age (25-64) employed persons who have not received all doses of the COVID-19 vaccine*



Source: CDC, BLS, PitchBook | Geography: US
*As of November 3, 2021

We estimate that nearly one third of employed persons aged 25 to 64 in the US are not fully vaccinated against COVID-19. Individual corporate vaccine requirements for employment, as well as broad-based government-issued vaccine requirements, could have a significant impact on the US labor force. While it is impossible to predict how individuals will respond to vaccine requirements, the estimate of 38.4 million employed and not fully vaccinated people in the core working-age group is 5x more than the current number of unemployed persons.

The PE Barometer indicates a mildly positive environment for PE returns.

PE Barometer*

	Indicator	Signal	Beta	Value	Contribution
Macro	National activity index	Level	0.12	0.82	0.09
	National activity index	Trend	0.10	-0.03	0.00
	Consumer confidence	Level	0.02	-1.17	-0.03
	Consumer confidence	Trend	0.03	-1.71	-0.05
	Business confidence	Level	0.05	1.15	0.06
	Business confidence	Trend	0.07	0.23	0.02
Credit	High-yield spreads	Level	-0.06	-0.88	0.05
	High-yield spreads	Trend	-0.10	0.02	0.00
	Lending standards	Level	-0.03	-1.57	0.05
	Financial stress index	Level	-0.09	-0.91	0.08
	Financial stress index	Trend	-0.12	-0.06	0.01
Equity	Implied equity vol	Level	-0.08	-0.21	0.02
	Implied equity vol	Trend	-0.12	0.04	-0.01
	Small cap equity	Trend	0.11	0.05	0.01

Private Equity Barometer Score	0.32

Source: PitchBook, FRED | Geography: US
*As of October 31, 2021

Our PE Barometer is a factor-based framework that estimates the state 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.

For more information on methodology, please see this analyst note.

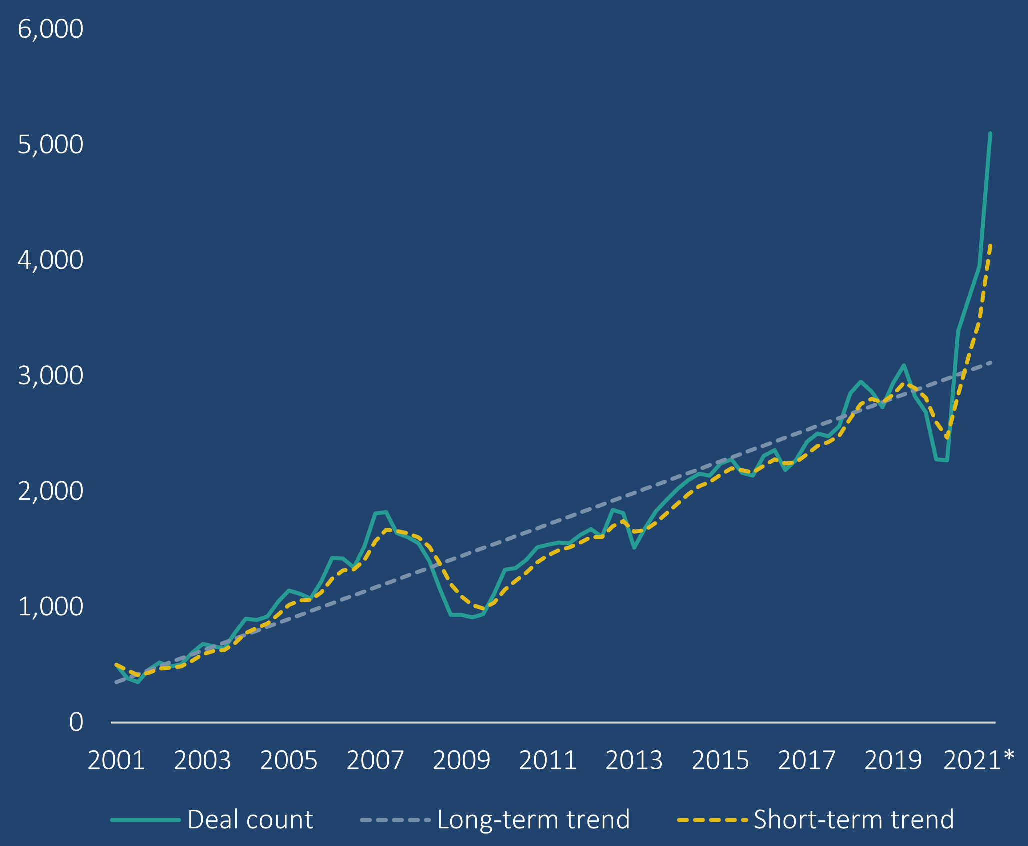
Deals & exits

Key takeaways

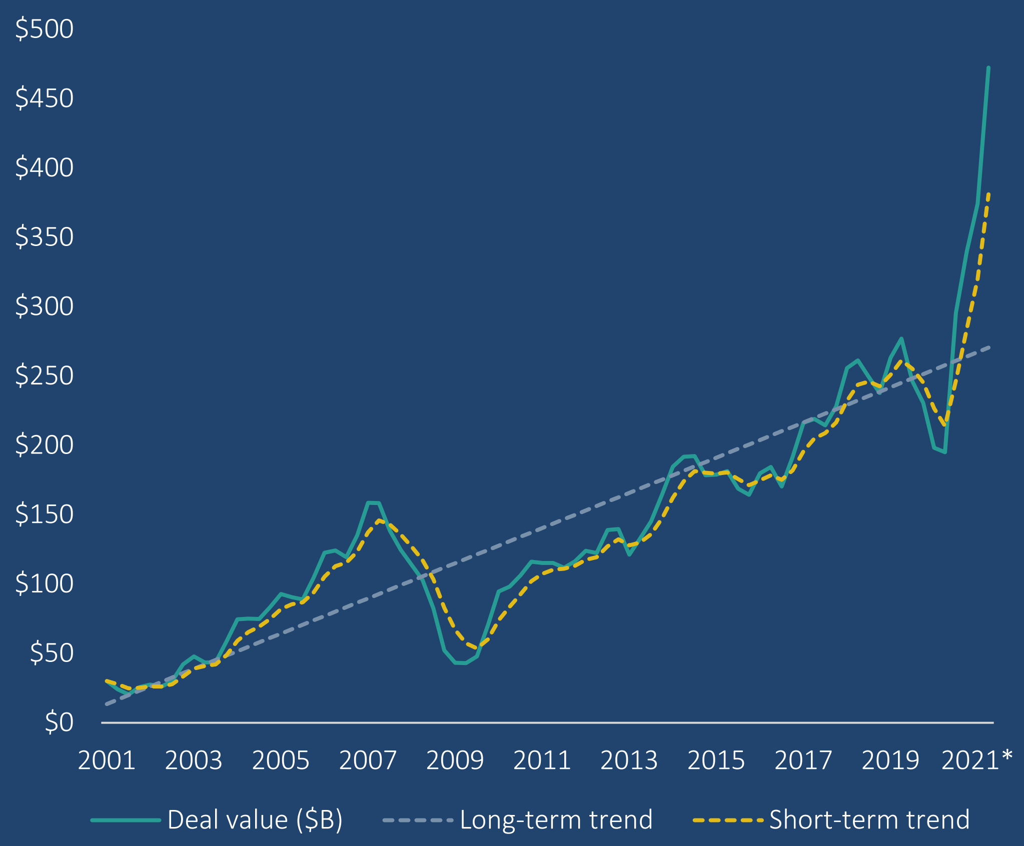
- In the past two quarters, driven by strong buyout activity in the technology and business products & services sectors, as well as a healthy market for PE growth deals, PE deals have been completed at the highest level relative to trend in at least the last 20 years.
- Dealmaking activity in the energy sector has lagged all other sectors, but we expect a strong bounce back in this space if higher oil prices are sustained.
- Growth deals have accounted for 12.4% of deal value so far in 2021—the highest percentage since 2009. This has contributed to more PE investment in technology companies on an absolute and relative basis.
- Propelled by an extremely hot IPO market, PE-backed exits have more than recovered from the slowdown in 2020.
- While the number of exits has been impressive, a sharp increase in companies' valuations at exit has been the key factor behind the boom.
- PE firms have been rewarded handsomely for exiting companies via the public market. The median EV/EBITDA for private companies that underwent public listings versus strategic and financial acquisitions has reached 1.7x and 1.2x, respectively, over the past three years.
- Despite the flurry of recent exit activity, the percentage of buyout-backed companies that have successfully exited in under five years has slipped recently, and the average age of company inventory has increased.

Recent PE deal activity is the hottest it has been in 20+ years...

Rolling six-month PE deal count trends



Rolling six-month PE deal value trends



Source: PitchBook | Geography: US
*As of September 30, 2021
Note: Data is seasonally adjusted, and the most recent four quarters include estimations.

…driven by strong activity within the tech, financial services, and business products & services sectors.

PE deal trends dashboard*

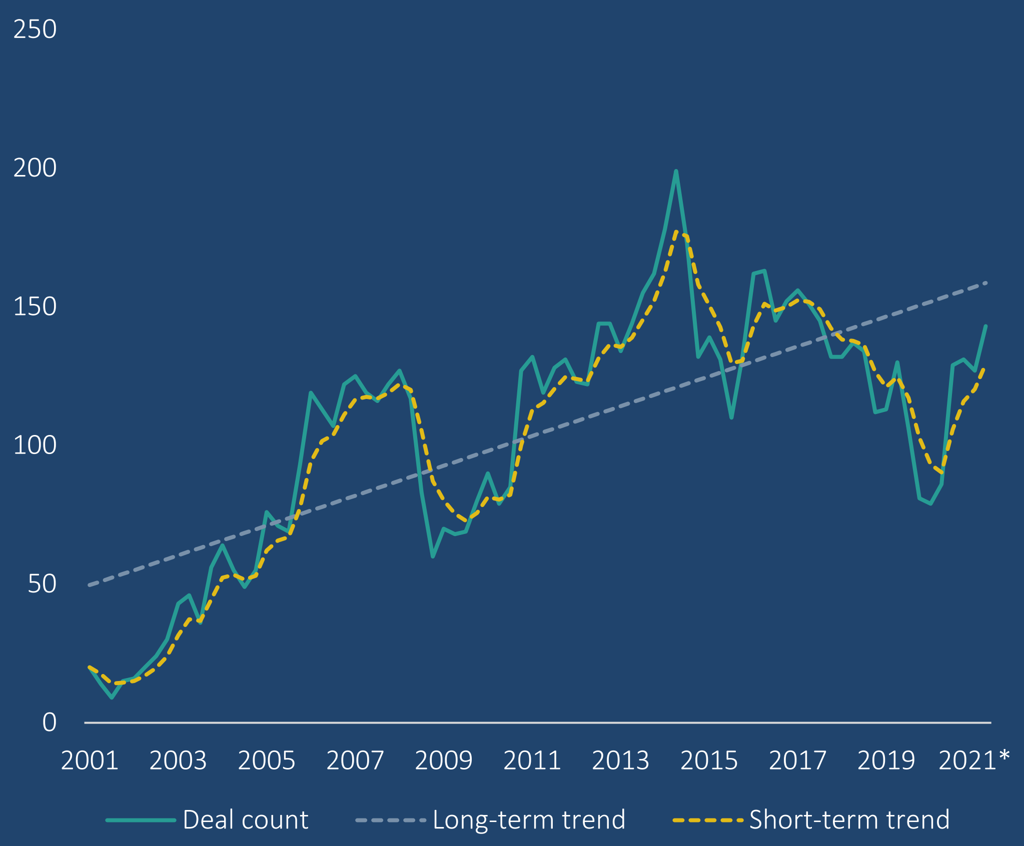
		Deal count (#)				Deal value ($B)			
	Segment	Current	% of total	Long-term score	Short-term score	Current	% of total	Long-term score	Short-term score
	Total	5,094	100%	5.41	2.37	$472.8	100%	4.90	1.63
Sector	Business products & services	1,777	36.2%	4.89	2.16	$148.0	32.3%	4.18	1.54
Sector	Consumer products & services	755	15.4%	3.97	2.26	$75.1	16.4%	4.36	1.85
Sector	Energy	141	2.9%	-0.57	0.50	$20.2	4.4%	0.08	0.69
Sector	Financial services	397	8.1%	5.35	1.66	$48.8	10.6%	4.25	0.75
Sector	Healthcare	722	14.7%	3.96	1.07	$68.4	14.9%	4.10	0.72
Sector	Tech	1,005	20.5%	5.69	2.28	$82.9	18.1%	4.81	1.39
Sector	Materials & resources	111	2.3%	1.95	1.34	$15.1	3.3%	3.03	1.41
Type	Buyout (all)	3,976	78.1%	4.69	1.94	$397.5	84.1%	4.32	1.40
Type	Buyout (add-on)	2,932	57.6%	5.42	2.03	$247.6	52.4%	4.90	1.29
Type	PE growth	931	18.3%	6.03	2.22	$61.0	12.9%	6.10	1.83

Source: PitchBook | Geography: US
*As of September 30, 2021
Note: Data is seasonally adjusted and includes estimations.

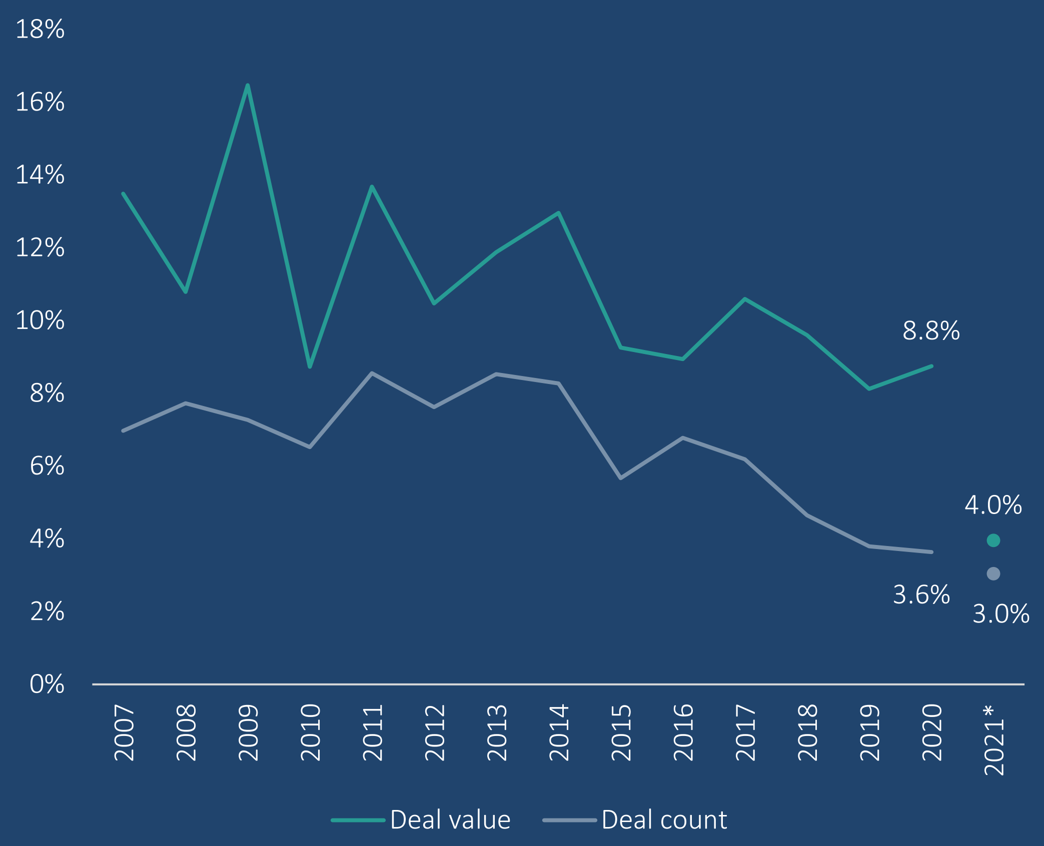
The PE deal trends dashboard provides a quantitative assessment of the overall trailing six-month deal activity, as well as within each sector and deal type after adjusting for seasonality and reporting lags. The long- and short-term scores represent the normalized deviations from a full period linear trendline and a 12-month exponential moving average, respectively.

For more than five years before the pandemic, energy deal activity was trending lower. It is the only sector wherein activity is below its long-term trend...

Rolling six-month PE energy deal count trends



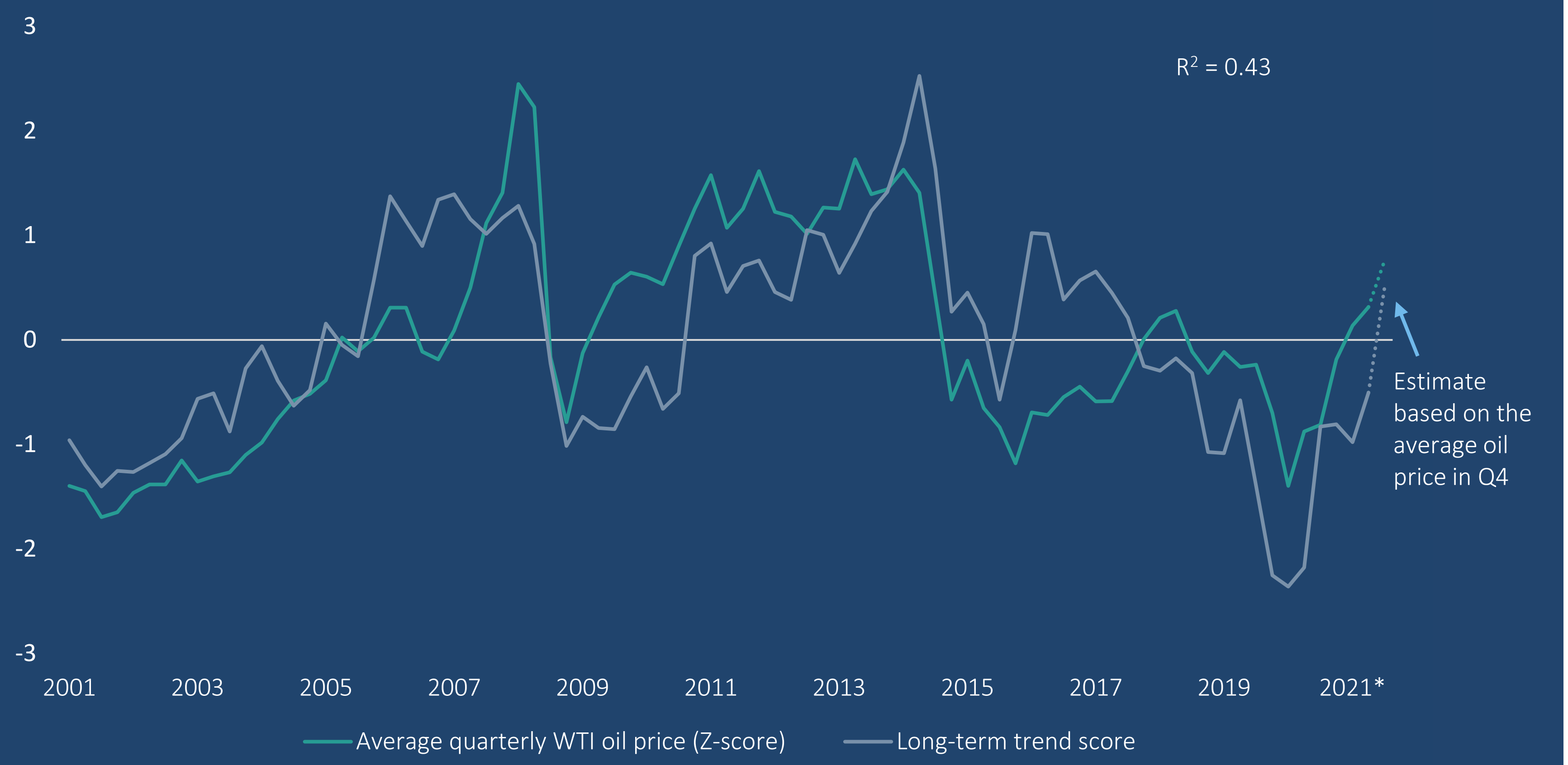
Energy deals as a share of all PE deals



Source: PitchBook | Geography: US
*As of September 30, 2021

...but higher oil prices, if sustained, should help propel a further comeback in PE energy deals.

Oil prices and PE energy deals relative to long-term trend

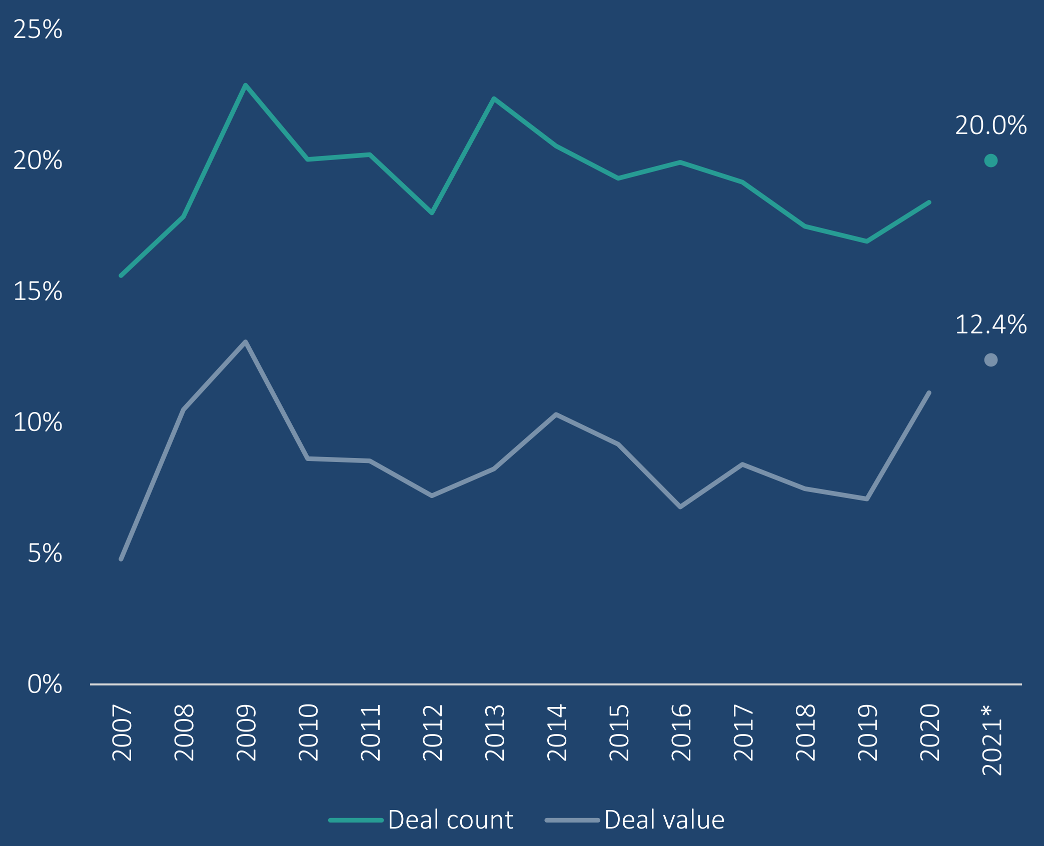


Source: FRED, PitchBook | Geography: US
*As of September 30, 2021
Note: Oil prices are the WTI spot price.

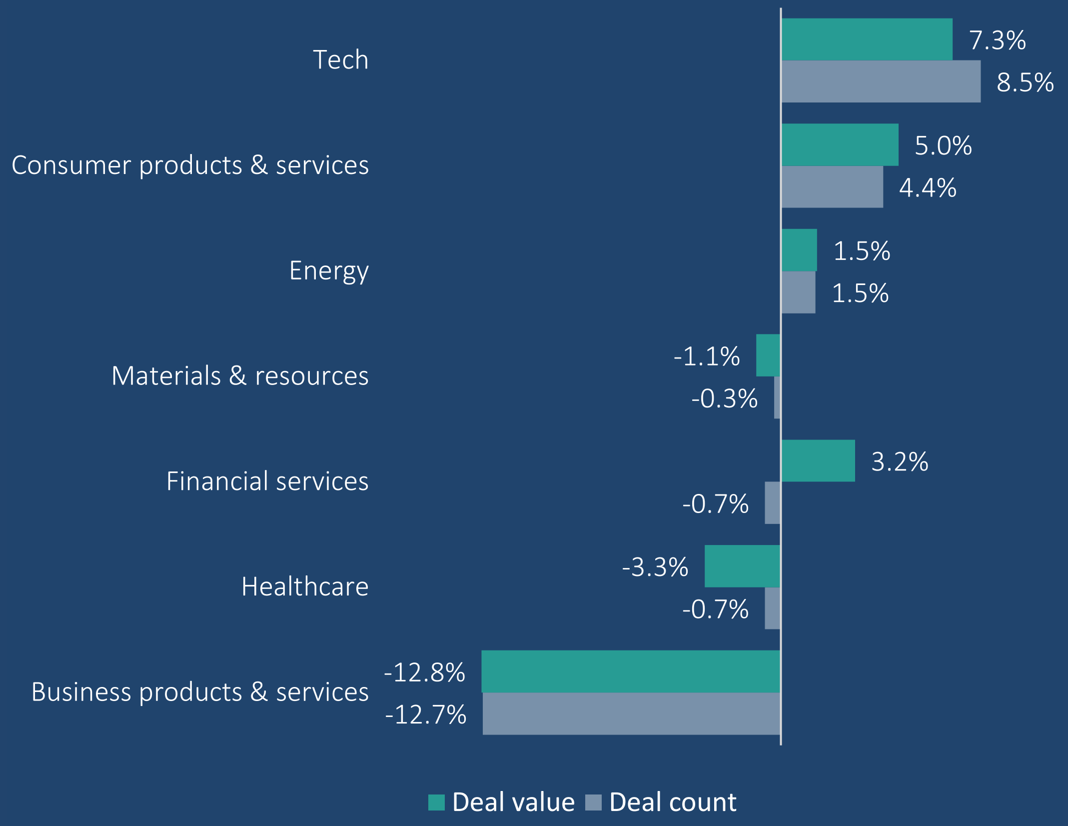
Over the past seven years, PE deal activity in the energy sector has been hampered by low oil prices. However, given the recent rise in oil prices, activity in the space should pick up if the strong historical relationship between the two holds.

Increasing capital allocation in growth relative to buyout deals in the past few years represents another factor underlying the growing importance of the tech sector within PE.

PE deals and deal value as a share of all PE activity



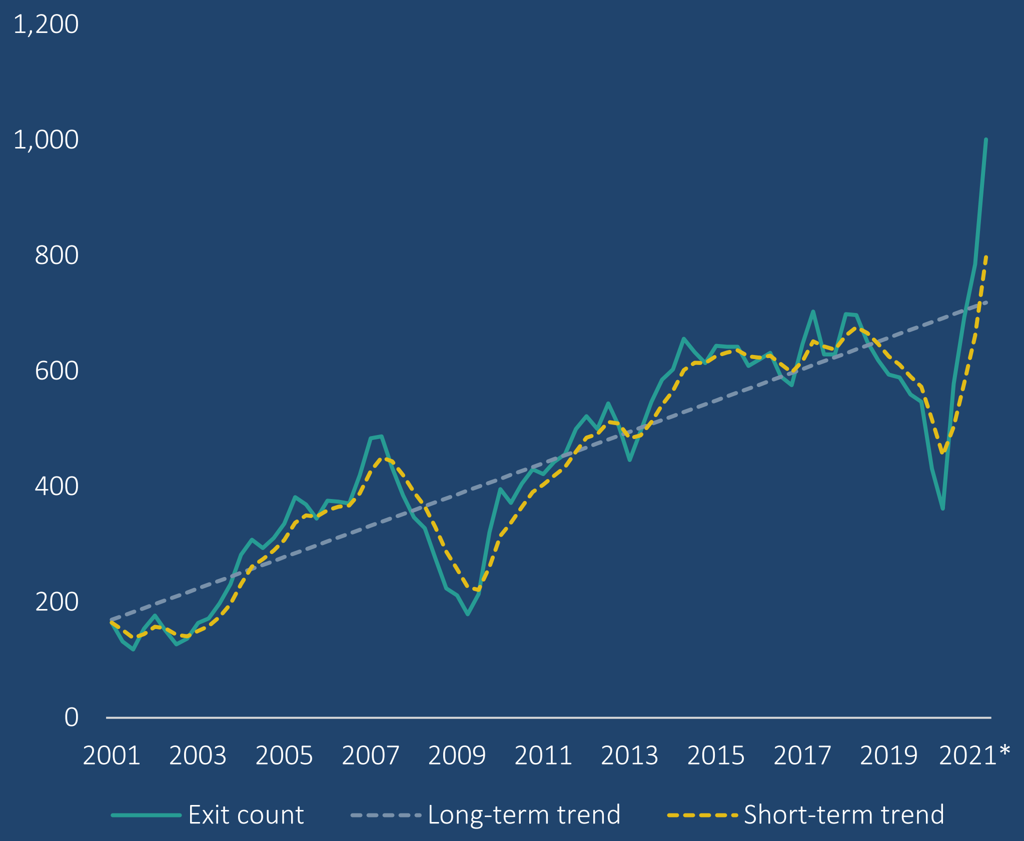
Growth sector allocations relative to buyout (trailing three years)*



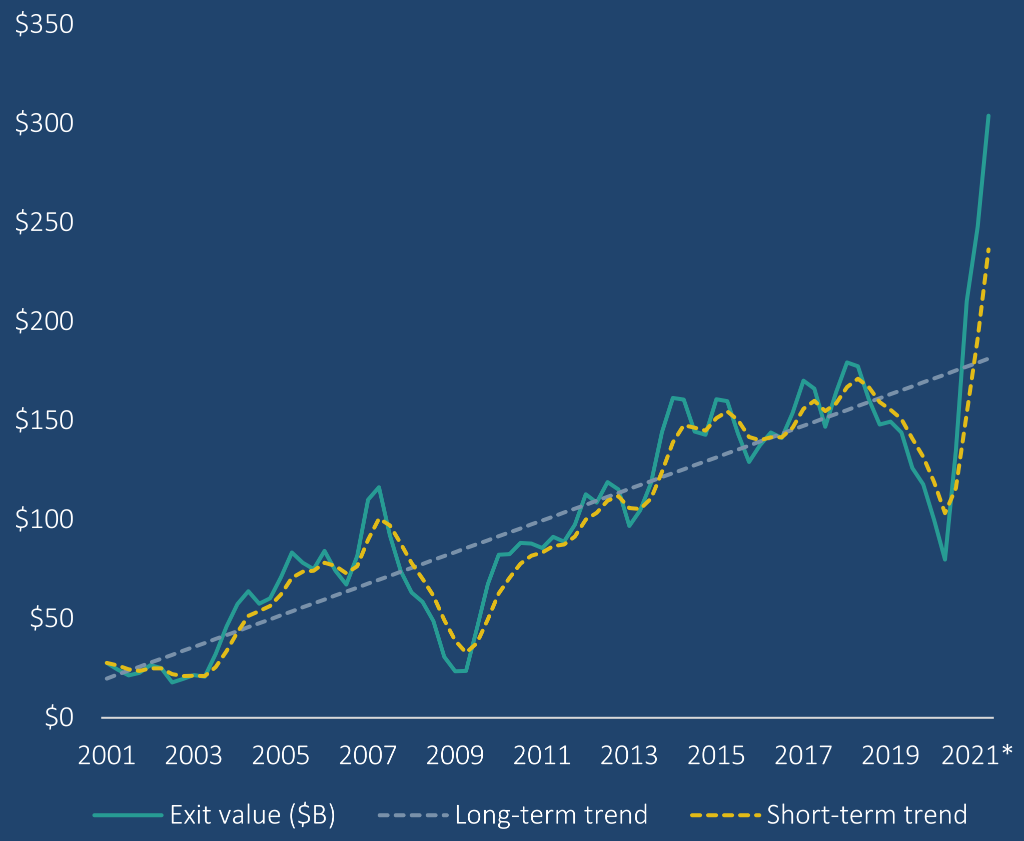
Source: PitchBook | Geography: US
*As of September 30, 2021

PE exit activity was already dropping prior to the pandemic, but it has also seen a tremendous bounce back over the past year…

Rolling six-month PE exit count trends



Rolling six-month PE exit value trends



Source: PitchBook | Geography: US
*As of September 30, 2021
Note: Data is seasonally adjusted, and the most recent four quarters include estimations.

…propelled by the tech sector and a hot IPO market.

PE exit trends dashboard*

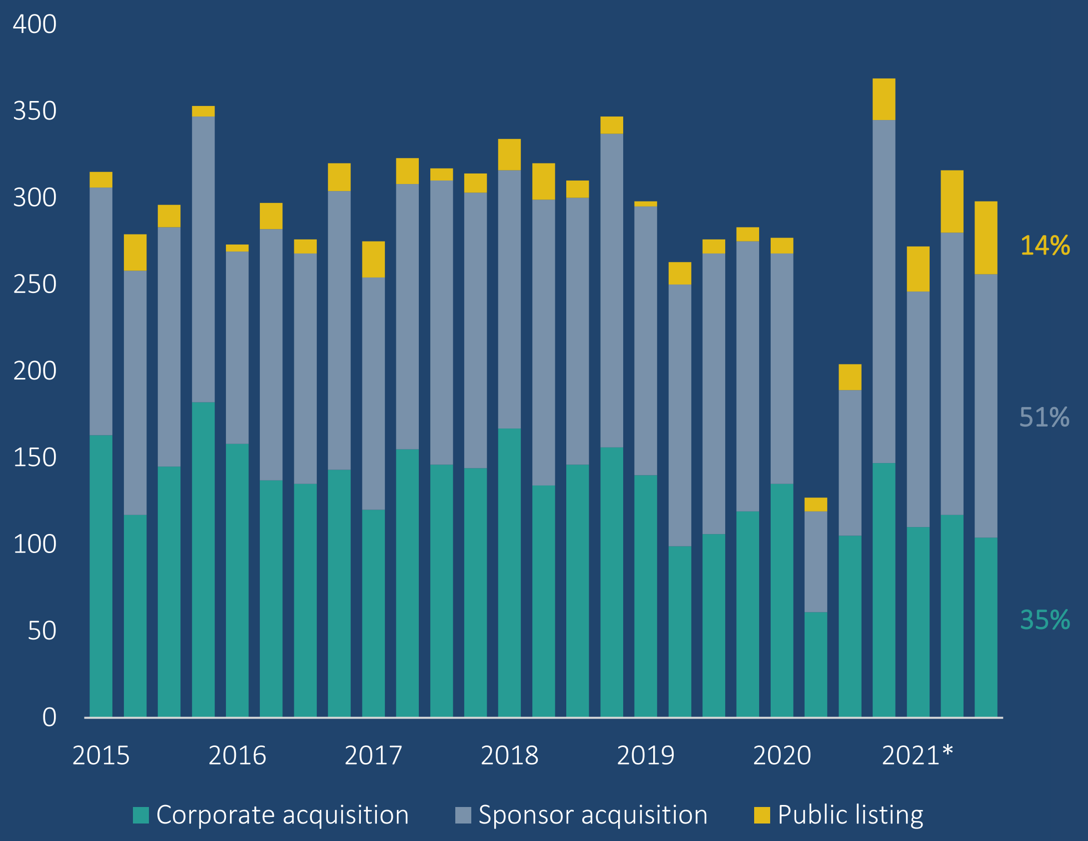
	Segment	Exit count (#) Current	% of total	Long-term score	Short-term score	Exit value ($B) Current	% of total	Long-term score	Short-term score
	Total	997	100%	2.99	2.20	$304.4	100%	4.08	1.66
Sector	Business products & services	305	31.6%	1.84	1.64	$81.0	27.1%	3.27	1.40
Sector	Consumer products & services	160	16.6%	0.77	2.33	$57.9	19.4%	3.38	1.81
Sector	Energy	40	4.1%	-0.77	-0.09	$11.4	3.8%	-0.94	-0.16
Sector	Financial services	63	6.5%	1.57	1.25	$19.5	6.5%	1.63	0.86
Sector	Healthcare	158	16.4%	4.50	1.80	$52.1	17.4%	4.44	0.96
Sector	IT	208	21.6%	5.19	1.82	$70.6	23.7%	5.44	1.36
Sector	Materials & resources	31	3.2%	0.40	1.26	$6.1	2.0%	-0.51	0.81
Type	M&A	356	35.7%	0.40	1.43	$98.5	32.4%	1.54	1.40
Type	Buyout	494	49.5%	3.21	1.59	$108.3	35.6%	2.46	0.87
Type	Public listing	116	11.6%	5.11	1.76	$91.8	30.2%	5.71	1.21

Source: PitchBook | Geography: US
*As of September 30, 2021

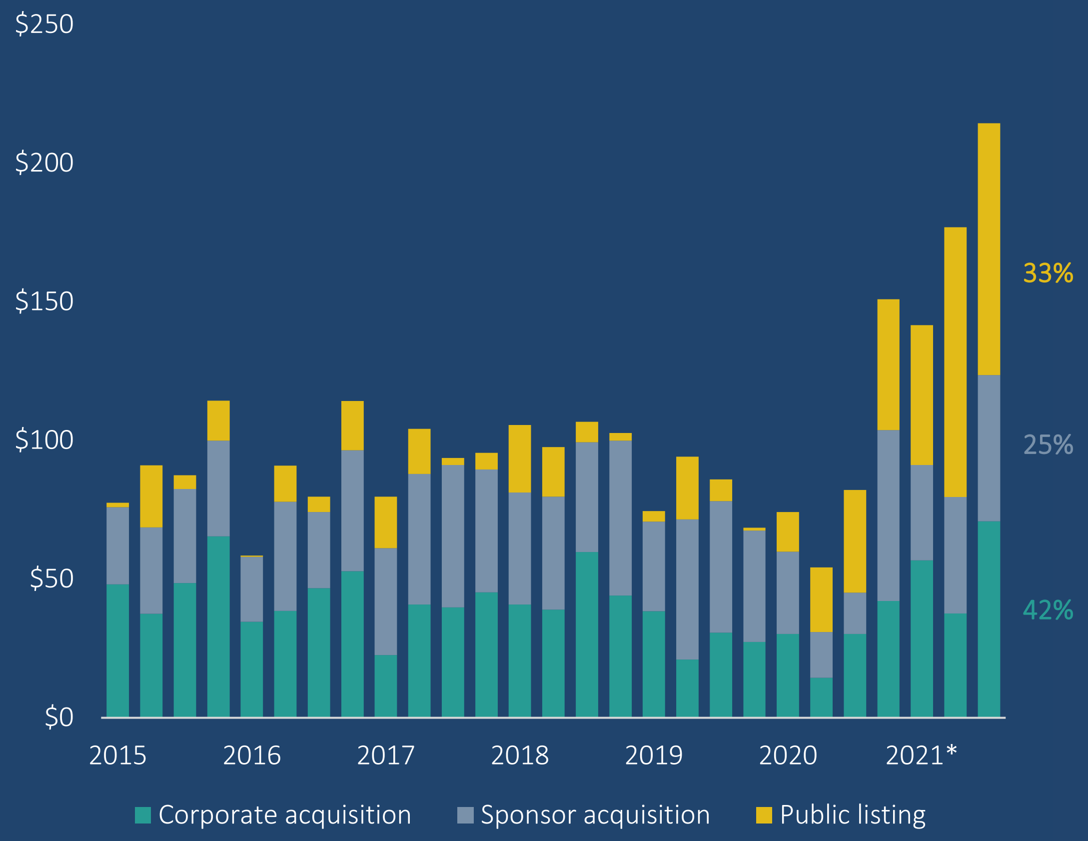
The PE exit trends dashboard provides a quantitative assessment of the overall trailing six-month exit activity, as well as within each sector and exit type after adjusting for seasonality and reporting lags. The long- and short-term scores represent the normalized deviations from a full-period linear trendline and a 12-month exponential moving average, respectively.

PE-backed companies exiting via public listings have already hit annual records through the first three quarters of 2021.

Quarterly PE exit count by exit type



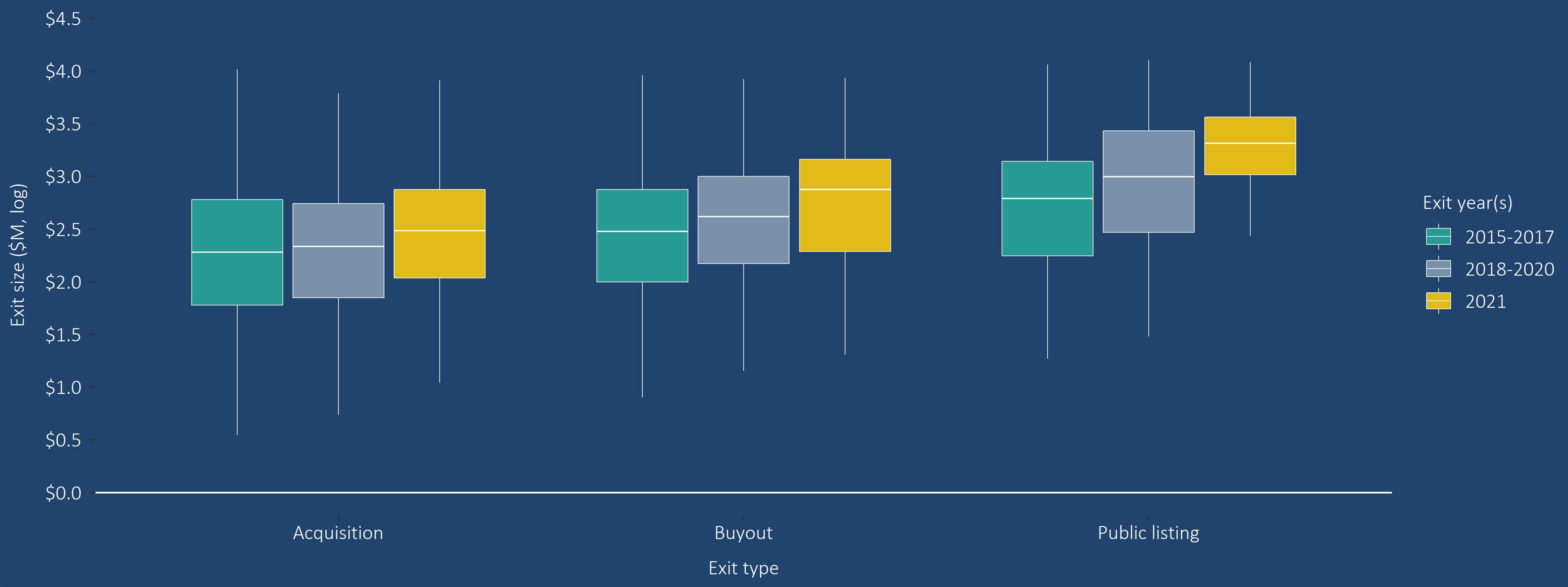
Quarterly PE exit value ($B) by exit type



Source: PitchBook | Geography: US
*As of September 30, 2021

The increase in exit valuations across all exit types—but especially public listings—has led to the spike in aggregate exit value in 2021.

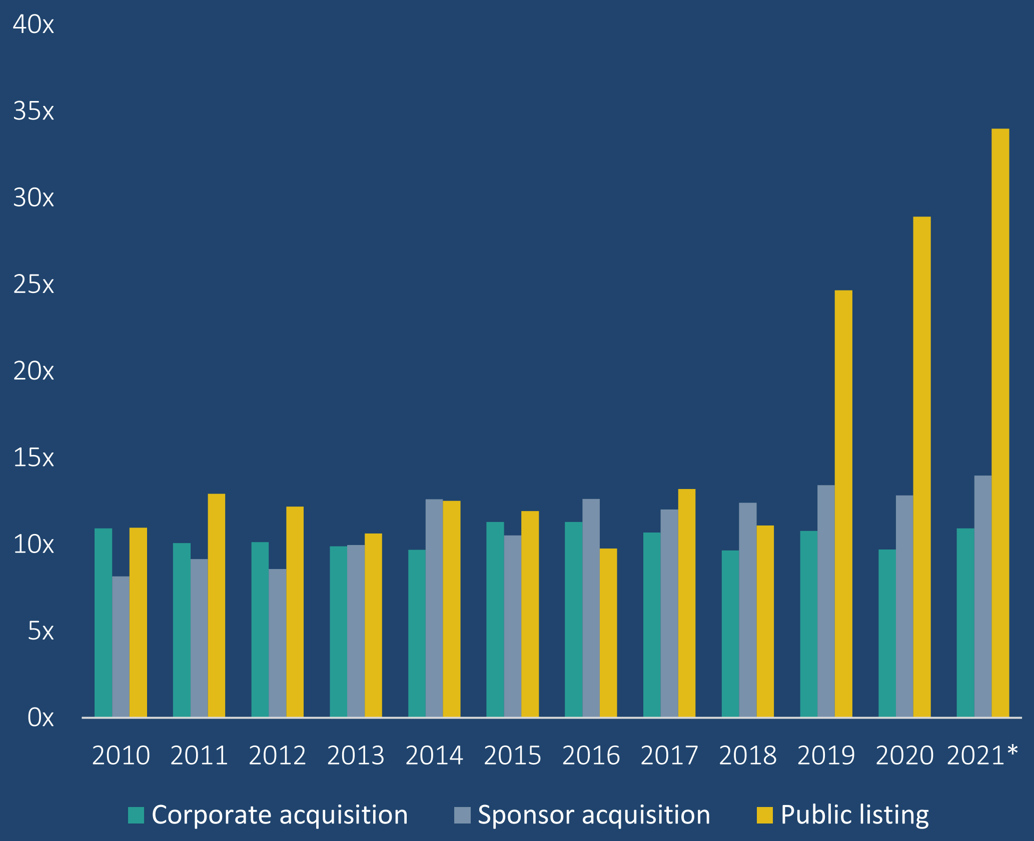
Distribution of PE exit size by exit type and time period*



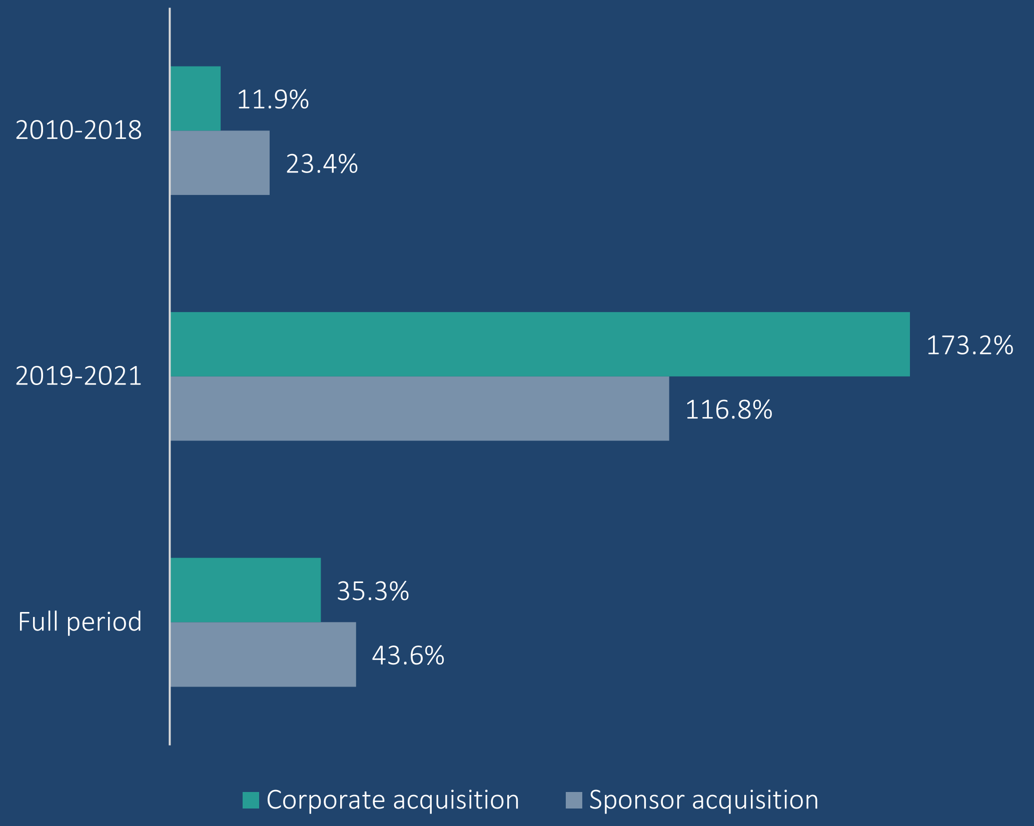
Source: PitchBook | Geography: US
*As of September 30, 2021

There has been a huge incentive to exit private companies via the public market as valuation multiples have increased dramatically relative to acquisitions.

Median EV/EBITDA multiple by deal type



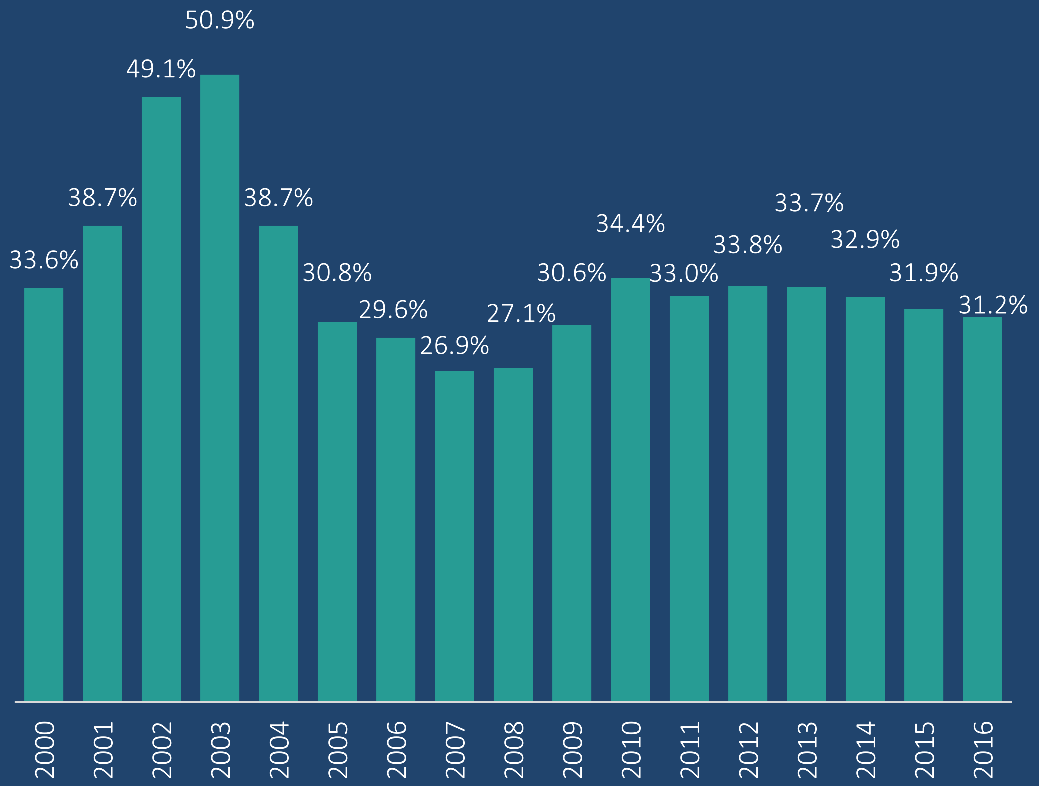
Public listing EV/EBIDTA multiple premiums by deal type*



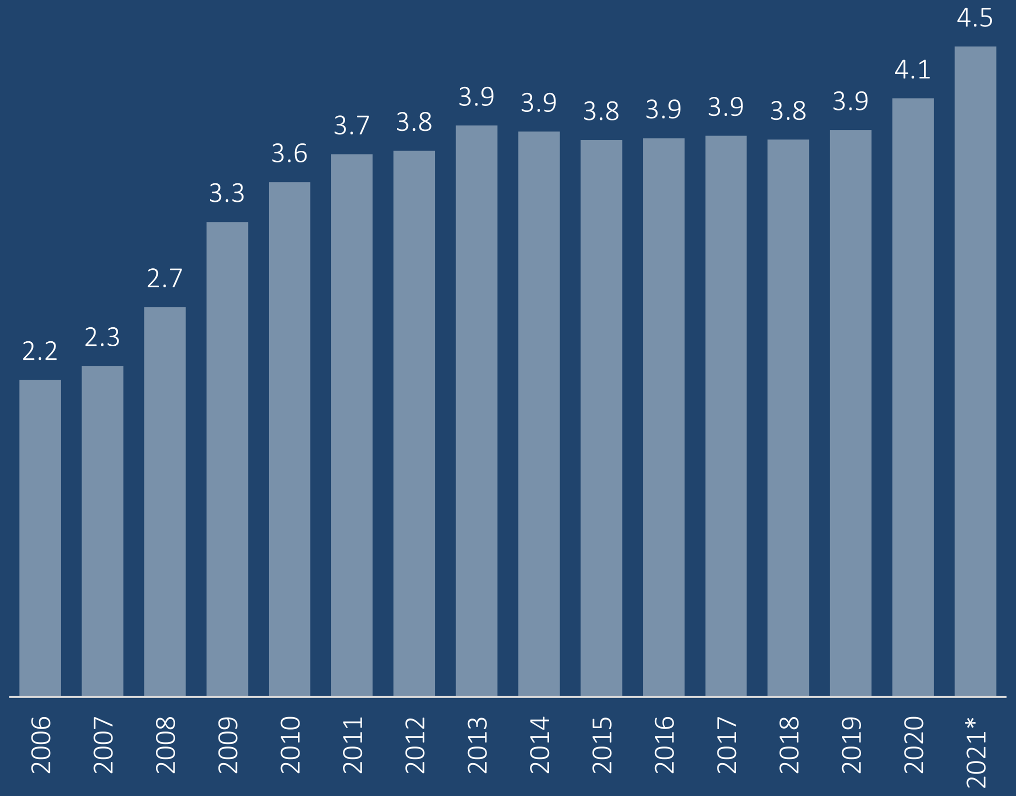
Source: PitchBook | Geography: US
*As of September 30, 2021
Note: Data includes all deals, not just PE-backed exits.

Despite the flurry of recent exits, the share of buyout-backed companies exiting within five years has ticked down, and the average age of inventory has increased.

Share of buyout-backed companies exiting within five years by deal year*



Average age (years) of buyout-backed companies



Source: PitchBook | Geography: US
*As of September 30, 2021

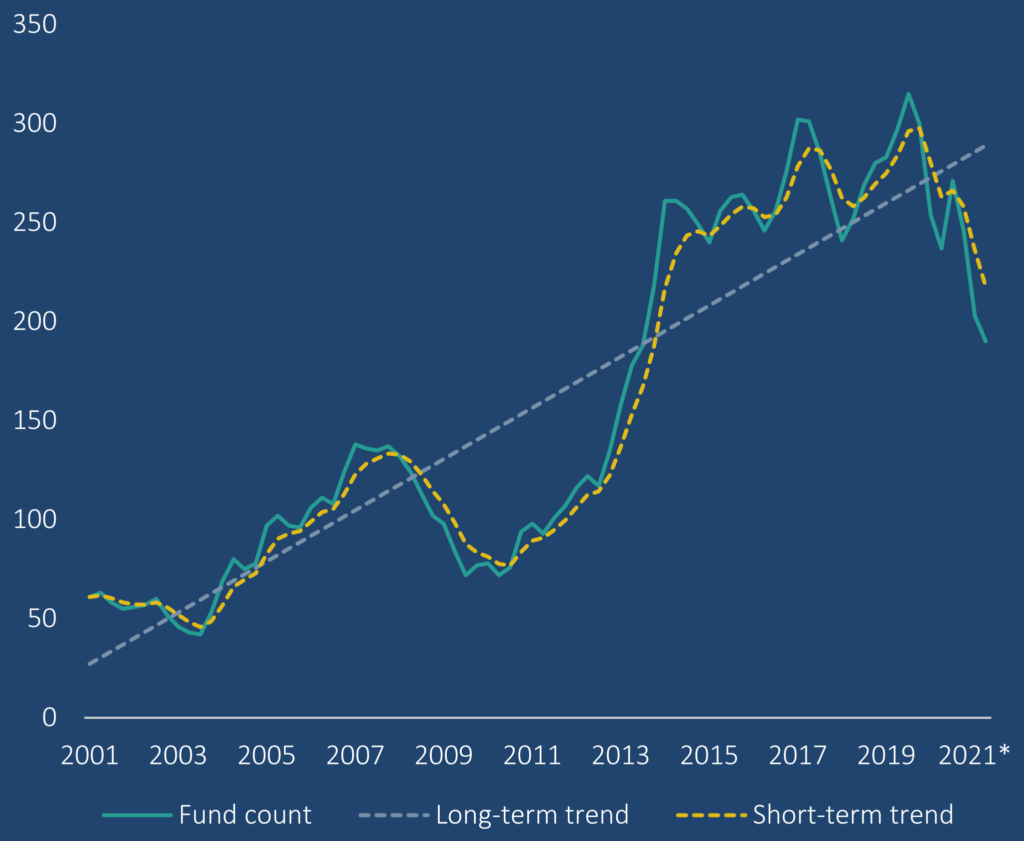
Fundraising & performance

Key takeaways

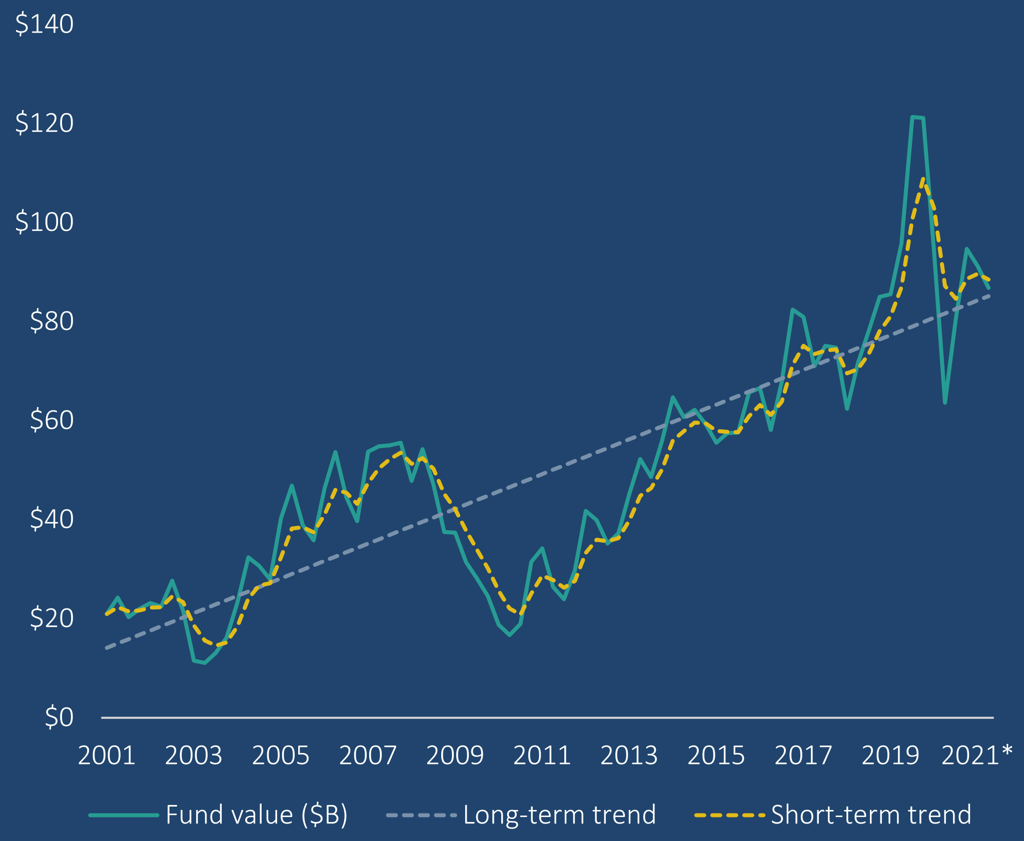
- The number of funds recently closed has continued to trend lower, while total capital raised has rebounded to pre-COVID-19 trends as larger managers and funds have dominated the market.
- The 10 largest funds closed in 2021 accounted for nearly one third of capital raised, and the average fund size reached an all-time high of $852.7 million.
- PE fund managers have reported record performance in the past five quarters even as distribution rates have been at average levels during this time.
- Unrealized gains caused by valuation markups have contributed more to recent fund performance than during any period in at least 20 years.
- While fund distributions may surge in coming quarters if these high valuations are realized, there is a risk that future returns will be negatively affected—particularly if the exit market cools.

The number of funds closed has continued to trend lower, while capital raised has trended higher...

Rolling six-month PE fund count trends



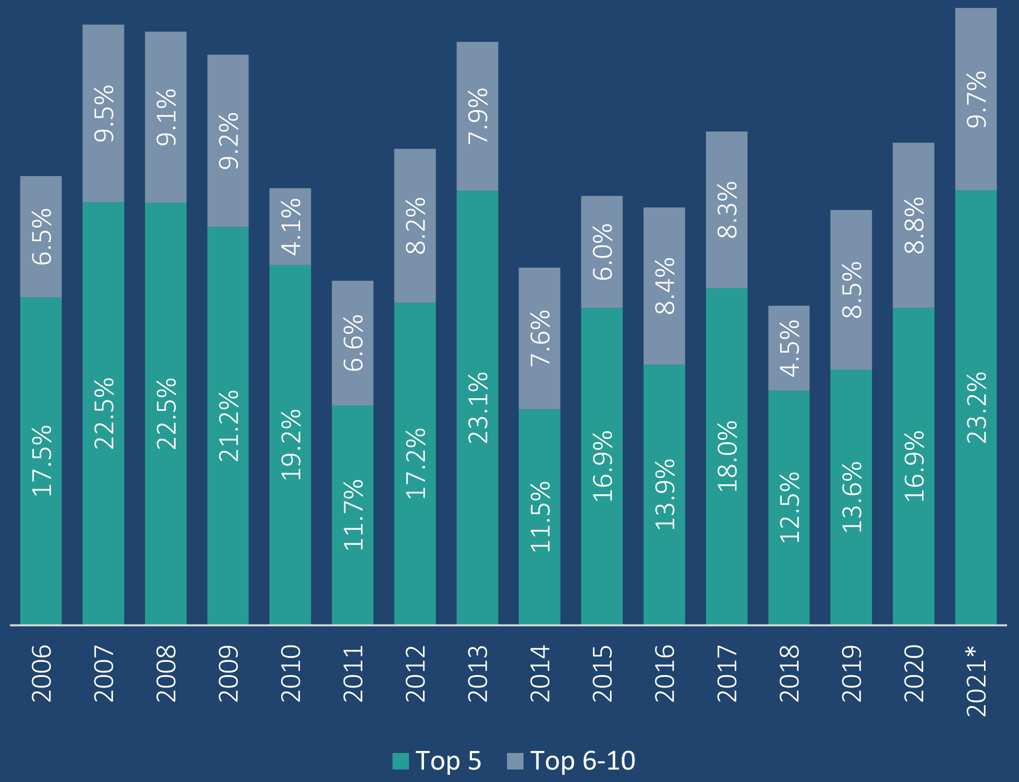
Rolling six-month PE fund value trends



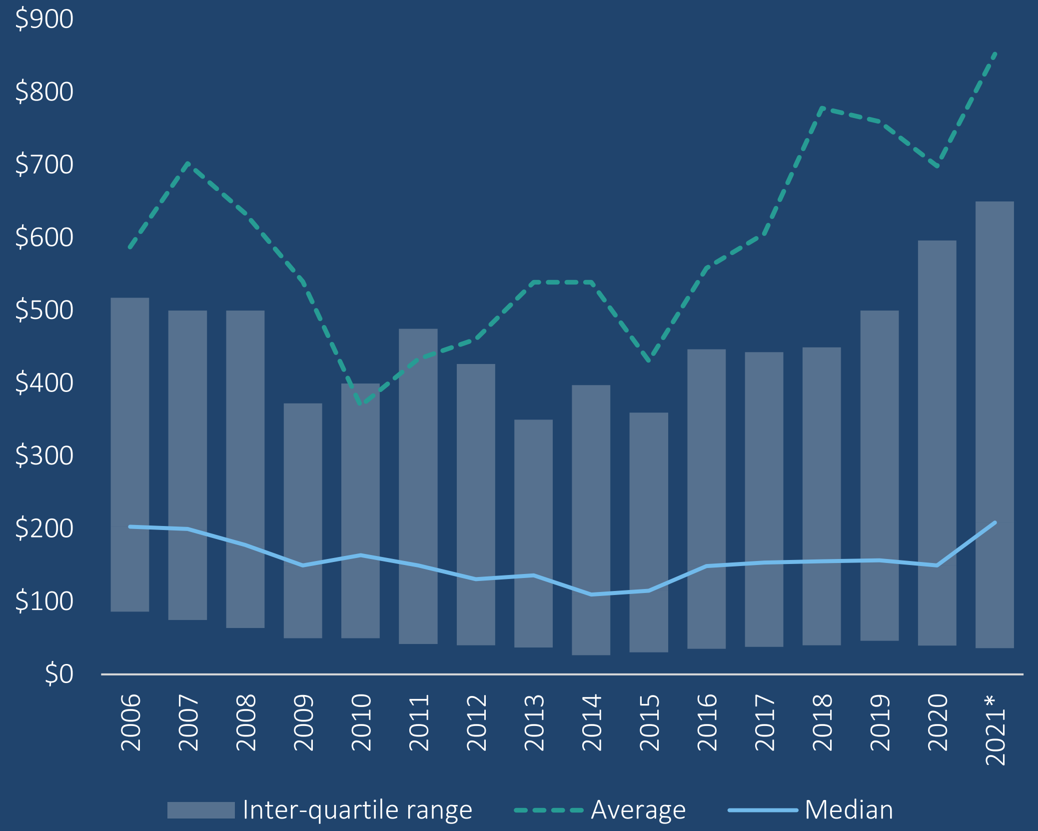
Source: PitchBook | Geography: US
*As of September 30, 2021
Note: Data are seasonally adjusted.

…as larger funds have dominated the market, with the 10 largest funds accounting for almost one third of all capital raised in 2021.

Top PE funds as a share of total capital raised



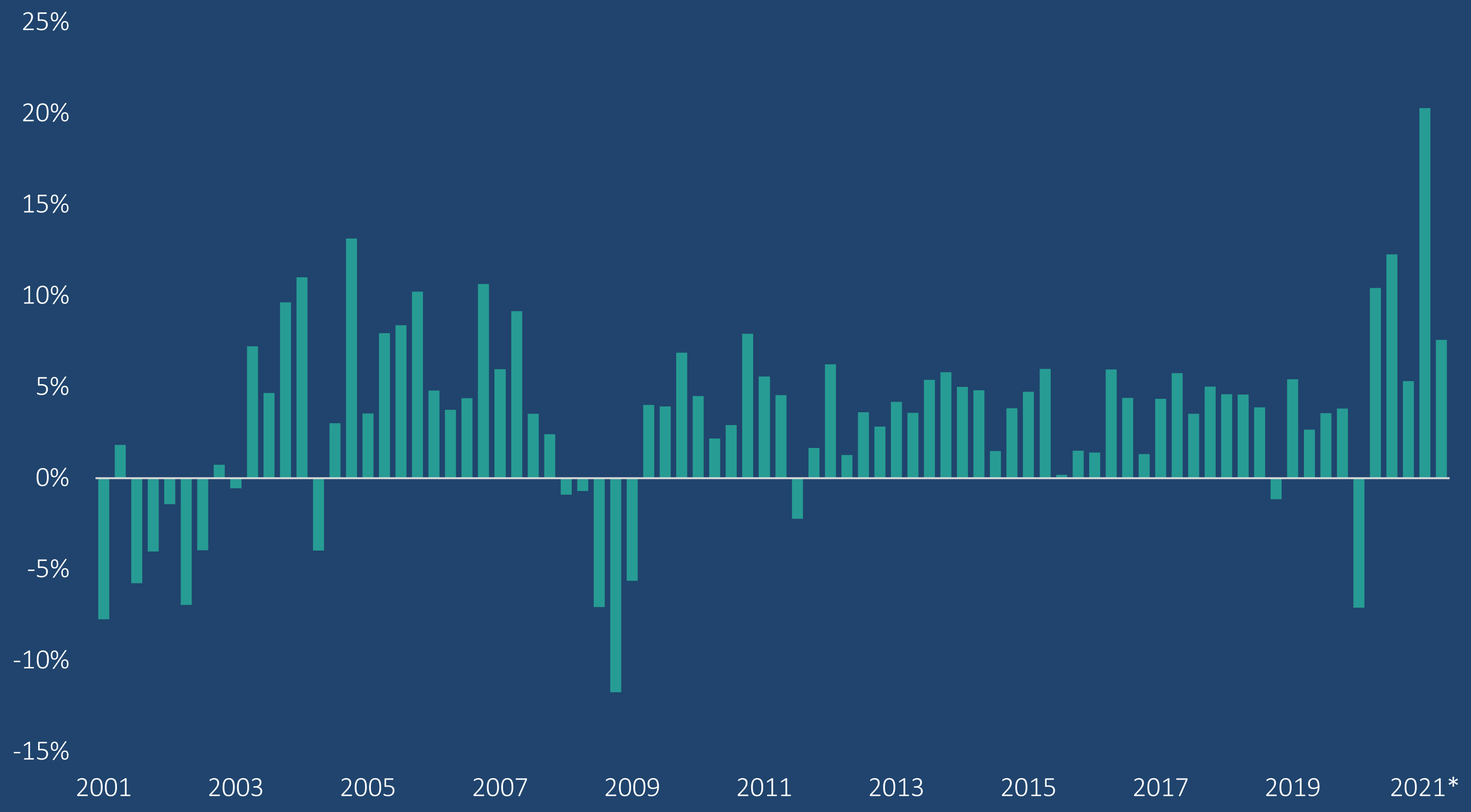
PE fund sizes ($M)



Source: PitchBook | Geography: US
*As of September 30, 2021

Quarterly PE returns have been extraordinary over the past five quarters, including a record high return in the first quarter of 2021.

Quarterly PE returns

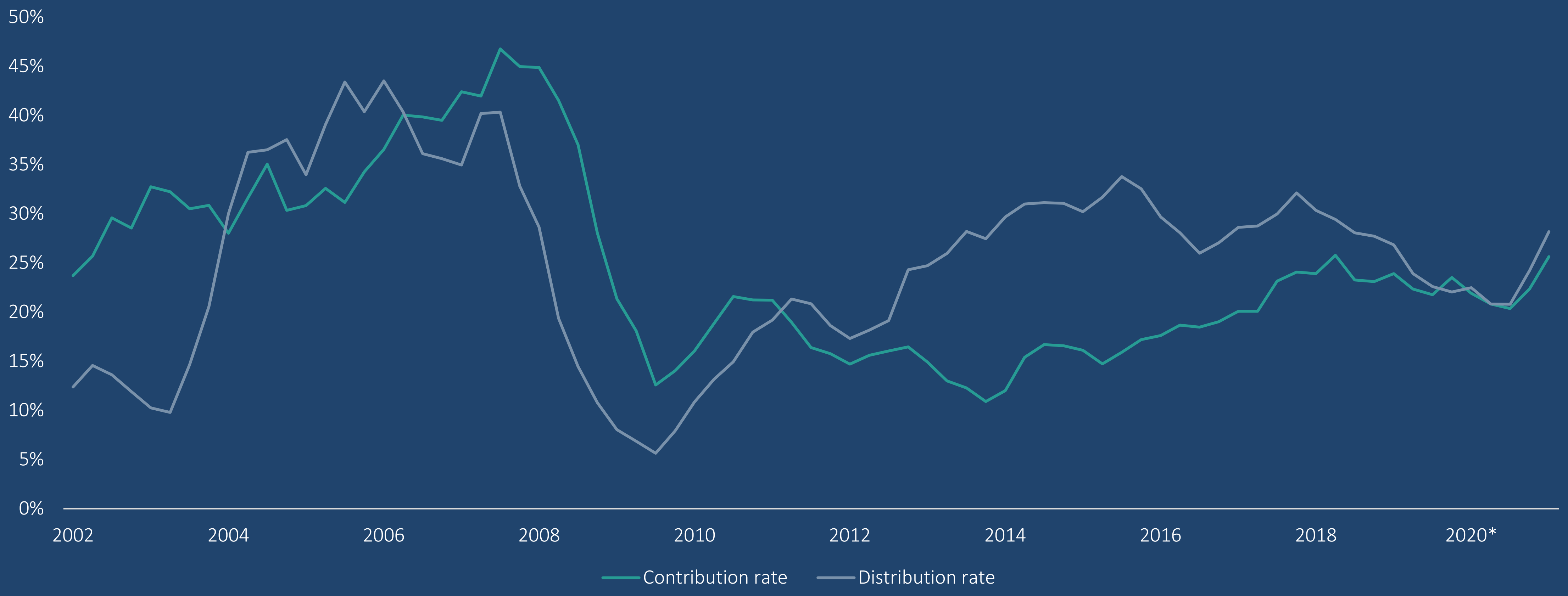


Source: PitchBook | Geography: US
*As of June 30, 2021
Note: Q2 2021 performance is preliminary.

The trailing one-year compound returns as of Q1 and Q2 2021 of 55.6% and 51.3%, respectively, are the best one-year returns in at least the past two decades. This incredible performance is somewhat surprising given the Q2 2020 drawdown was only 7.1%.

After falling slightly in the first half of 2020, distribution and contribution rates have rebounded to average levels.

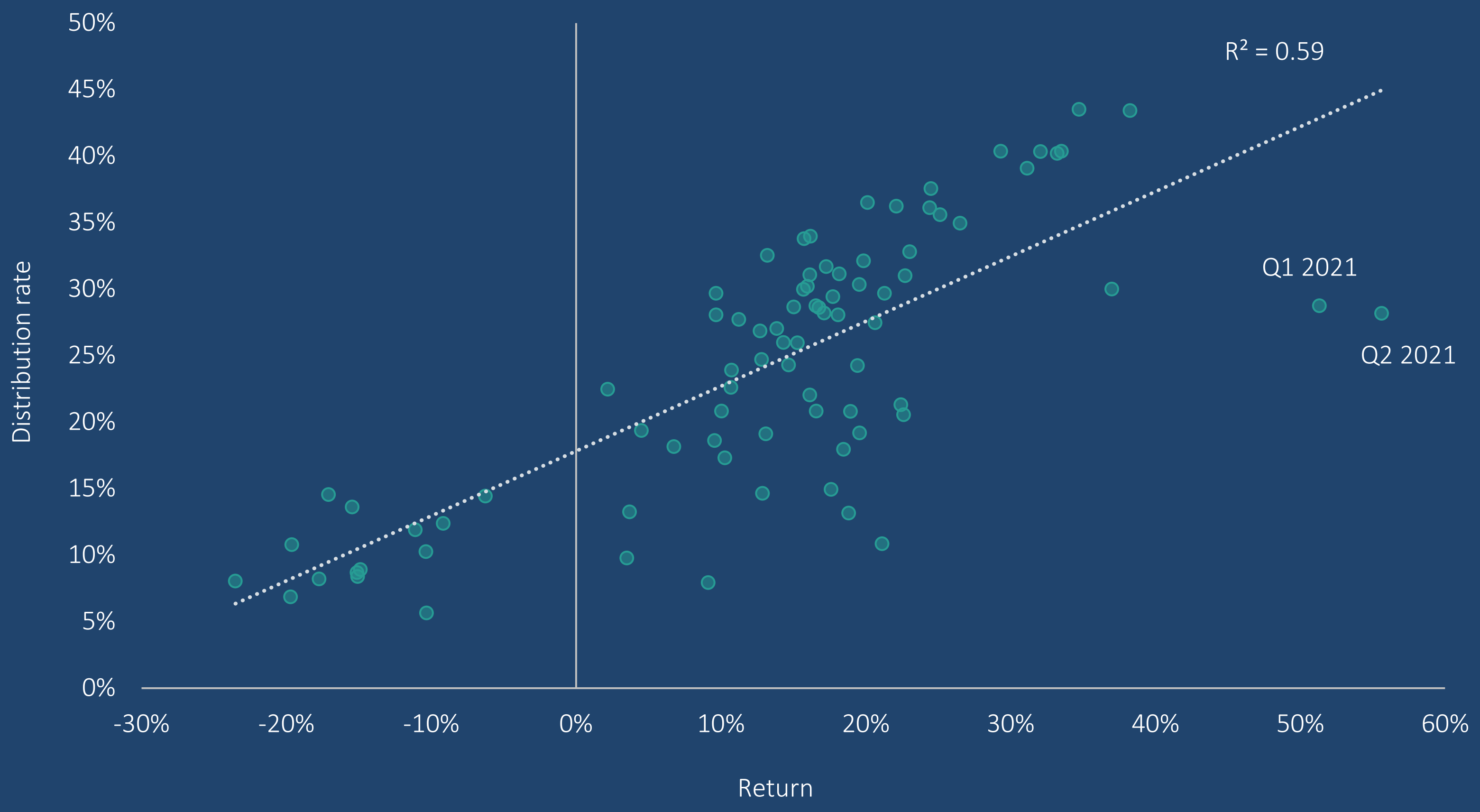
Trailing 12-month PE fund distribution and contribution rates on beginning NAV



Source: PitchBook | Geography: US
*As of March 31, 2021

Distributions, the main driver of closed-end fund returns, have not justified the strong recent performance.

Trailing one-year PE fund returns and distribution rates*

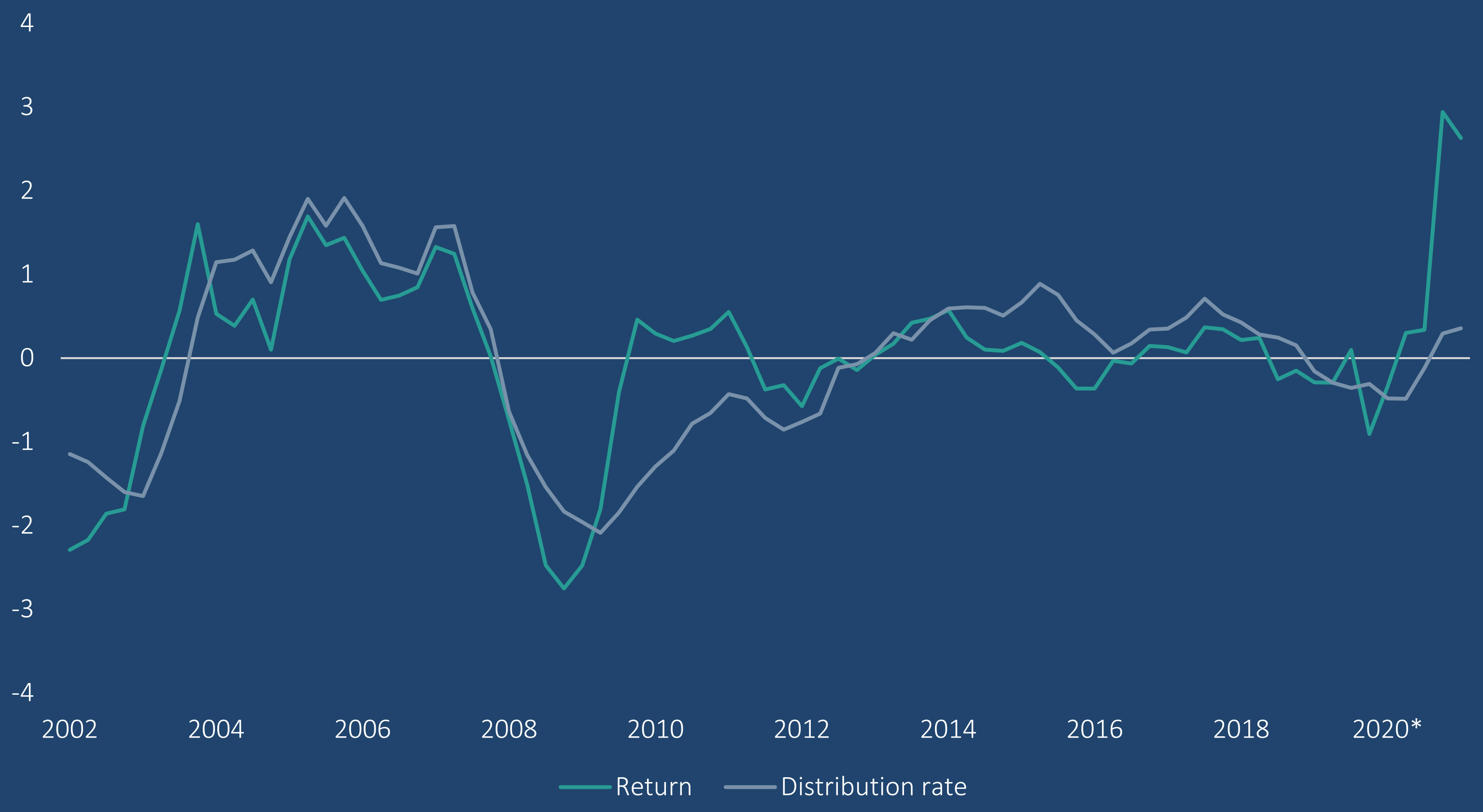


Source: PitchBook | Geography: US
*As of March 31, 2021
Note: Distribution rates are calculated from beginning period NAV.

The distribution rate has explained nearly 60% of the variation in one-year returns. However, this relationship broke down during the past two quarters. For example, based on the distribution rate of 28.8% in Q1 2021, the expected one-year return is 20.9% versus the reported return of 51.3%. The discrepancy between these two numbers comes from significant markups to net asset value (NAV), which represent unrealized returns. If these high valuations are not realized, it could represent a significant drag on future returns.

The distribution rate is near its historical average, while the trailing one-year return is the highest it has been in at least 20 years.

Trailing one-year PE returns and distribution rates (z-score)



Source: PitchBook | Geography: US
*As of March 31, 2021
Note: Distribution rates are calculated from beginning period NAV.

The only period with a similar dynamic occurred immediately post-GFC. However, during this period, performance was recovering from a sharp drawdown to average levels.

Glossary

Consumer confidence (OECD, p11) – An indicator that provides insight into future developments of households' consumption and saving, based on answers regarding their expected financial situation, their sentiment about the economic environment, and capability of savings. A value above 100 signals an increase in consumers' confidence toward the future economic situation, which means they are less prone to save and more inclined to spend money on major purchases in the next 12 months. A value below 100 indicates a pessimistic attitude toward future economic developments, possibly resulting in a tendency to save more and consume less.

Business confidence (OECD, p11) – An indicator that provides insight into future developments based upon opinion surveys on developments in production, orders, and stocks of finished goods in the industry sector. It can be used to monitor output growth and anticipate turning points in the economy. A number above 100 suggests an increased confidence in near-future business performance, and numbers below 100 indicate pessimism toward future performance.

Headline CPI (BLS, p12) – a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services

Core CPI (BLS, p12) – a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services, excluding food and energy-related items

Consumer inflation expectations (University of Michigan, p12) – the expected rate of inflation over the next 12 months based on a survey of consumers

Market inflation expectations (FRED, p12) – A five-year, five-year forward measure of expected inflation, which is the average level of inflation over the five-year periods starting in five years. This measure is calculated from interest rate spreads between nominal and inflation-adjusted Treasury rates.

Breakeven inflation rate (FRED, p14) – the difference between the nominal and inflation-adjusted Treasury yield of the same maturity, which represents the average level of inflation over the life of the bonds that would make their real returns equal

Real Treasury yield (FRED, p14) – the difference between the nominal Treasury yield and the breakeven inflation rate, which is a measure of the expected return of the bond after accounting for inflation

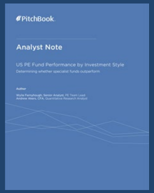
Small-cap factor (Kenneth French, p15) – the return of a small-cap equity portfolio minus the return of a large-cap equity portfolio

Value factor (Kenneth French, p15) – the return of a value portfolio minus the return of a growth portfolio based on price-to-book ratios

Leverage factor (Kenneth French, p15) – the return of a portfolio of firms with low investment policies minus the return of a portfolio of firms with high investment policies

Market-implied fed funds rate (CME Group, p16) – The derived yield from the price of fed fund futures contracts, which are valued based on the fed funds rate set by the Federal Reserve. Current prices of contracts to be settled in the future represent the market's views of the Fed's interest rate policy between now and when the contract expires.

Additional research



[Analyst Note: US PE Fund Performance by Investment Style Q3 2021]

[US VC Valuations Report Q2 2021]

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

[Analyst Note: Does an Allocation to PE Add Value? Q3 2021]

[Global Private Debt Report H1 2021]

[Analyst Note: Private Equity Barometer Q1 2021]

[Private Fund Strategies Report Q2 2021]

[Analyst Note: Return Smoothing in Private Markets Q2 2021]

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

[US PE Middle Market Report Q2 2021]

[Quantitative Perspectives: US Market Insights Q3 2021]

[US PE Breakdown Q3 2021]

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