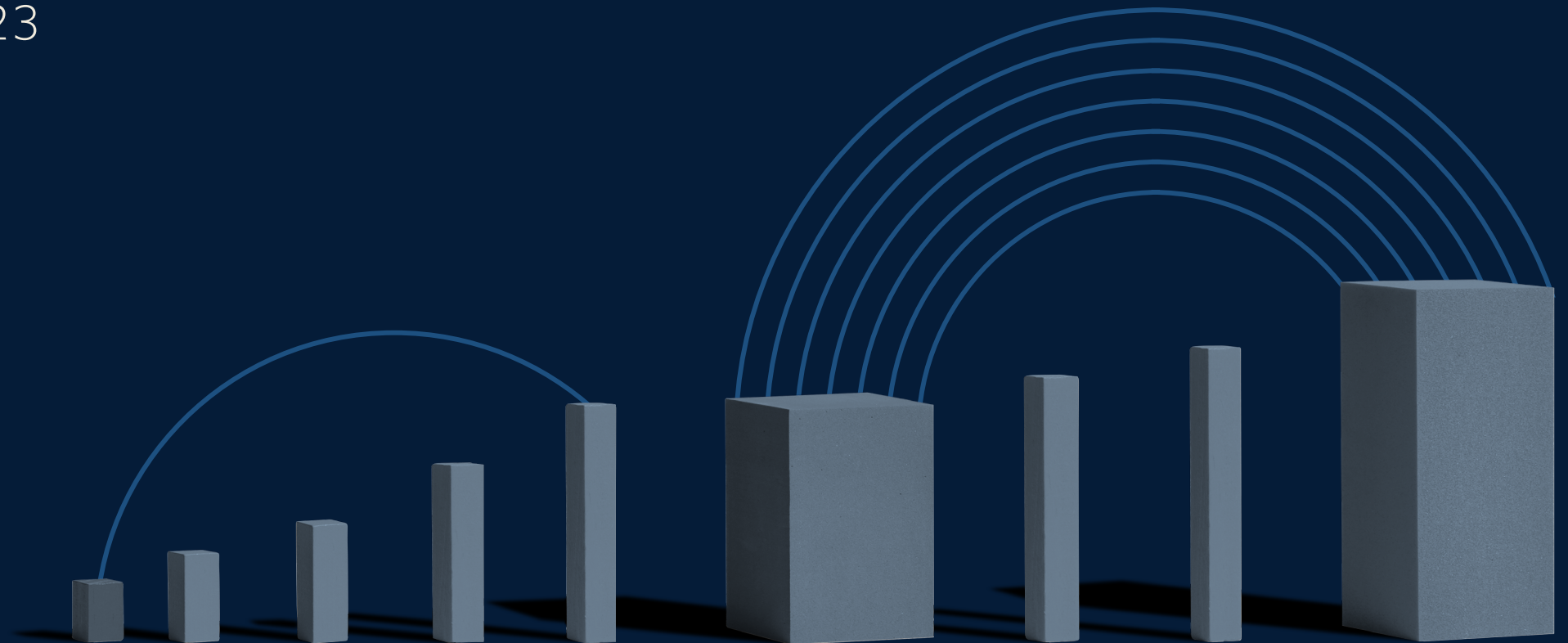




 NORTH AMERICA

PitchBook Benchmarks

AS OF Q1 2023



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Introduction

PitchBook Benchmarks aim to help both LPs and GPs better understand fund performance relative to broader asset classes and other private market strategies. We present performance through several lenses—including internal rates of return (IRRs) and cash multiples—to provide a holistic view for assessing performance within and between strategies, as well as across vintage years. Furthermore, the returns of private market funds are measured relative to easily accessible public market substitutes using a public market equivalent (PME) metric.

We have expanded PitchBook Benchmarks to include additional slices based on fund strategy and geography, enabling performance comparisons with more representative peer groups. We include dedicated PitchBook Benchmarks for North America, Europe, private equity, venture capital, real estate, real assets, private debt, funds of funds, and secondaries. To easily access the supporting data in this PDF, be sure to download the accompanying Excel data packs.

As transparency is fundamental to our benchmarking efforts, subscribers to the PitchBook Platform can use the data packs to gain direct [access to all the underlying funds](#) and performance metrics used to calculate our Benchmarks.

[Commitment pacing and cash flow models](#) are available in the Portfolio Forecasting tool in the PitchBook platform.

PitchBook clients have access to [all the underlying funds](#) as well as additional benchmarking analysis using the [Custom Benchmarks Tool](#).

Additional PitchBook research specific to fund returns can be found in our [Fund Performance Evaluation analyst workspace](#).

Our goal is to provide the most transparent, comprehensive, and useful fund performance data for private market professionals. We hope that our Benchmarks prove useful in your practice, and we welcome any and all feedback that may arise as you make your way through our various benchmark groupings. Should there be any additional benchmark categories or data points you would like to see included in the future, please contact us directly at benchmarks@pitchbook.com.

Additional data and vintage years are available in the Excel data packs:

Global	Europe	North America	Private equity
Venture capital	Real estate	Real assets	Private debt
Funds of funds	Secondaries		

Additional PitchBook Benchmark PDFs:

Global	Europe	North America	Private equity
Venture capital	Real estate	Real assets	Private debt
Funds of funds	Secondaries		

Methodology

Fund classifications

Private equity

Buyout
Growth/expansion
Restructuring/turnaround
Diversified PE

Venture capital

Real estate

Real estate core
Real estate core plus
Real estate value added
Real estate opportunistic
Real estate distressed

Real assets

Infrastructure core
Infrastructure value added
Infrastructure opportunistic
Infrastructure greenfield
Oil & gas
Timber
Metals/mining
Agriculture

Private debt

Direct lending
Bridge financing
Distressed debt
Credit special situations
Infrastructure debt
Venture debt
Real estate debt
Mezzanine

Funds of funds

Secondaries

Note: Benchmark reports prior to the Q4 2021 release included Mezzanine under Private Equity.

Data composition

PitchBook’s fund returns data is primarily sourced from individual LP reports, serving as the baseline for our estimates of activity across an entire fund. For any given fund, return profiles will vary for LPs due to a range of factors, including fee discounts, timing of commitments and inclusion of co-investments. This granularity of LP-reported returns—all available on the PitchBook Platform—provides helpful insight to industry practitioners but results in discrepancies that must be addressed when calculating fund-level returns.

To be included in pooled calculations, a fund must have: (i) at least one LP report within two years of the fund’s vintage, and (ii) LP reports in at least 45% of applicable reporting periods. To mitigate discrepancies among multiple LPs reporting, the PitchBook Benchmarks (iii) determine returns for each fund based on data from all LP reports in a given period. For periods that lack an LP report, (iv) a

straight-line interpolation calculation is used to populate the missing data; interpolated data is used for approximately 10% of reporting periods, a figure that has been steadily declining.

Beginning with the PitchBook Benchmarks with data as of Q4 2019, we expanded our dataset to include funds with a reported IRR, even if the fund’s cash flow data does not meet the pooled calculation criteria. In our Q2 2021 report, we made additional improvements to the inclusion criteria for reported IRRs, which caused some shifts in vintage year data counts compared with prior iterations.

Due to lag in reporting for some funds and liquidation causing older funds to no longer report returns, we will pull forward cash multiples and IRR information from previous quarters under the following stipulations: (i) we extend cash multiples and IRR after five years since fund inception if reported NAV was less than 5% of commitments. (ii) If NAV is unknown or is greater than 5% after five years, we extend cash multiples and IRR if the fund is older than eight years as of the last known data (iii) For funds less than five years or are less than eight years with NAV greater than 5%, we extend cash multiples and IRRs from the prior quarter if available.

We strive to maintain consistency from edition to edition of PitchBook Benchmarks, but fund classifications will change occasionally, and new funds will be incorporated into the dataset as we gather more information.

All returns data in this report is net of fees and carry.

Definitions and calculation methodologies

Fund count: Represents how many funds are included in a given sample. Note that some funds in our dataset have a reported IRR but lack sufficient cash flow information to be included in pooled calculations.

Median calculations: Shows the middle data point for a sample group.

Public market index returns: Instances where the return of a public market index is cited, we have calculated the annualized return for the given period. All public indices are total return and denominated in US dollars.

Standard deviation: Calculates the dispersion of reported IRRs for a given peer group using the sample-based standard deviation methodology.

Vintage year: The vintage year is based on the year that a fund makes its first capital call. If the year of the initial call is unknown, the year of the final close is used as the vintage year. However, if a firm publicly declares via press release or a notice on their website a fund to be of a particular vintage different than either of the first conditions, the firm's classification takes precedence.

Internal rate of return (IRR): IRR represents the rate at which an historical series of cash flows are discounted so that the net present value of the cash flows equals zero. For pooled calculations, any remaining unrealized value in the fund is treated as a distribution in the most recent reporting period. This explains why some vintages show high IRRs but low DPI values.

Horizon IRR: Horizon IRR is a capital-weighted pooled calculation that shows the IRR for a certain range in time. For example, the one-year horizon IRR figures in the report may show the IRR performance for the one-year period beginning in Q2 20x0 through the end of Q1 20x1 while the three-year horizon IRR is for the period beginning in Q2 20x0 through the end of Q1 20x3.

Quarterly return: Calculated as the aggregate percentage change in aggregate NAV for each group of funds in a sample, considering contributions and distributions during the quarter. This makes the calculation tantamount to a quarterly compounded growth rate. Interpolated and extended data are not used in this calculation. Preliminary data is only available for the Global Benchmarks report and will be published when NAV captured nears 50% of the expected NAV for all private capital funds with cash flow history.

$$\text{Quarterly return} = \left[\frac{\left(\text{NAV at end of quarter} + \text{distributions during the quarter} - \text{contributions during the quarter} \right)}{\text{NAV at the beginning of the quarter}} \right] - 1$$

Distributions to paid-in (DPI) multiple: A measurement of the capital that has been distributed back to LPs as a proportion of the total paid-in, or contributed, capital. DPI is also known as the cash-on-cash multiple or the realization multiple.

Remaining value to paid-in (RVPI) multiple: A measurement of the unrealized return of a fund as a proportion of the total paid-in, or contributed, capital.

Total value to paid-in (TVPI) multiple: A measurement of both the realized and unrealized value of a fund as a proportion of the total paid-in, or contributed, capital. Also known as the investment multiple, TVPI can be found by adding together the DPI and RVPI of a fund.

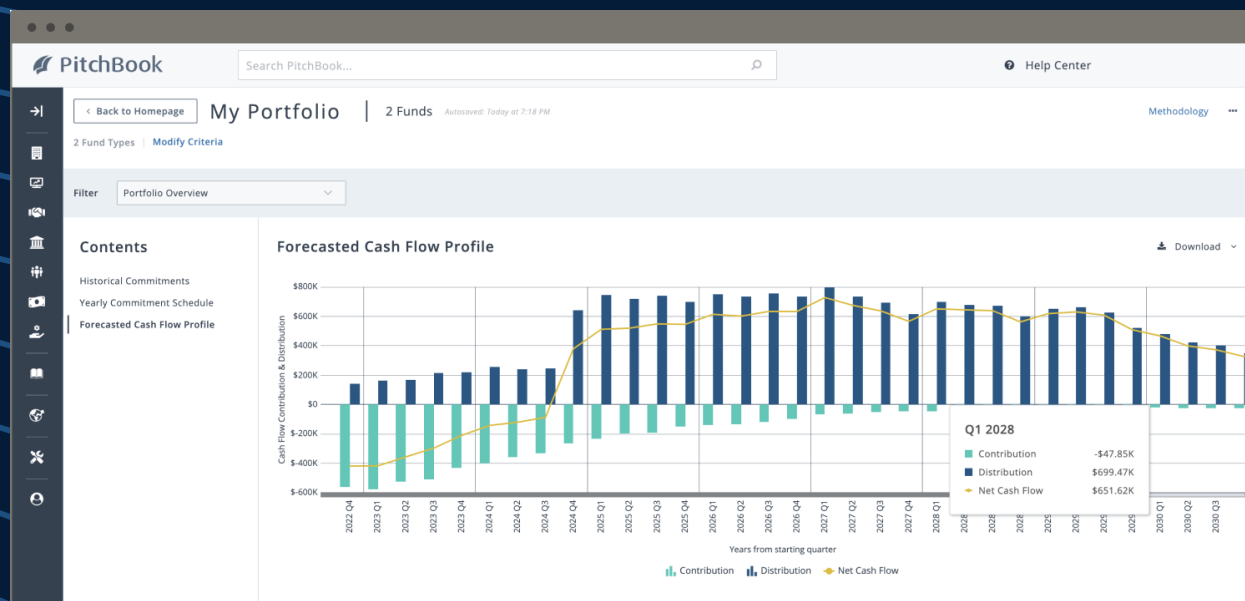
Pooled calculations: Pooled calculations combine cashflow data from a group of funds to create a capital-weighted IRR value. All cash flows and NAVs for each fund in the sample group (e.g. all private capital funds, 2004 vintage VC funds, etc.) are aggregated in the calculation. For vintage-specific calculations, we begin the calculation in Q1 of the vintage year, regardless of which quarter a fund first called capital. In cases where the sample has unrealized value, the ending NAV is treated as a cash outflow in the last reporting period.

Equal-weighted pooled calculations: Using the same methodology as the pooled calculations, the equal-weighted version expresses each fund's cash flows and ending NAV as a ratio of fund size. The result is that each fund in these calculations has an equal impact on the output, regardless of the fund size.

Public market equivalent (PME) calculations: PME metrics benchmark the performance of a fund (or group of funds) against an index. A white paper detailing the calculations and methodology behind the PME benchmarks can be found at pitchbook.com. [PitchBook News & Analysis](#) also contains several articles with PME benchmarks and analysis. All PME figures are calculated using the Kaplan-Schoar PME method: When using a KS-PME, a value greater than 1.0 implies outperformance of the fund over the public index (net of all fees).

$$\text{PME}_{\text{KS-TVPI, T}} = \frac{\frac{\text{NAV}_T}{I_T} + \sum_{t=0}^T \left(\frac{\text{distribution}_t}{I_t} \right)}{\sum_{t=0}^T \left(\frac{\text{contribution}_t}{I_t} \right)}$$

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Private capital

Private capital

Horizon IRRs

Strategy	Q2 2023*	Q1 2023	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	2.38%	2.50%	0.25%	21.88%	15.09%	14.20%	10.97%	12.52%
Private equity	3.12%	4.12%	0.82%	27.55%	19.19%	17.81%	13.18%	15.41%
Venture capital	-0.43%	-1.25%	-16.39%	21.90%	18.44%	15.98%	11.00%	10.52%
Real estate	2.32%	0.09%	1.27%	14.94%	10.85%	12.46%	7.40%	8.80%
Real assets	0.63%	1.20%	11.09%	17.66%	8.05%	7.04%	7.13%	7.92%
Private debt	-0.06%	1.82%	3.02%	11.52%	7.69%	8.57%	8.56%	9.43%
Funds of funds	11.01%	0.64%	-7.01%	22.77%	17.64%	14.22%	10.46%	11.85%
Secondaries	0.03%	1.80%	2.22%	21.29%	16.89%	14.12%	12.13%	13.35%
S&P 500	8.74%	7.50%	-7.73%	18.60%	11.19%	12.24%	10.06%	10.37%
Morningstar US	8.49%	7.40%	-8.60%	18.32%	10.53%	11.80%	10.00%	10.58%
Morningstar US Small Cap Growth	7.34%	10.20%	-15.17%	9.95%	3.98%	8.28%	8.57%	10.01%
Morningstar US Real Estate	2.30%	1.23%	-19.63%	9.89%	5.43%	5.57%	5.73%	8.66%
Morningstar Real Assets	-0.06%	2.18%	-7.56%	8.76%	4.50%	2.59%	3.67%	6.05%
Morningstar US High Yield	1.65%	3.69%	-3.44%	6.04%	3.21%	4.08%	6.46%	6.89%

*For private fund strategies these are preliminary quarterly returns.
Source: PitchBook | Geography: North America | Data as of March 31, 2023
Note: All public index values are total return CAGRs.

Private capital

Equal-weighted horizon IRRs

Strategy	Q2 2023*	Q1 2023	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	3.56%	0.55%	-3.20%	21.26%	16.08%	14.05%	10.82%	11.62%
Private equity	4.07%	3.00%	3.36%	27.20%	19.88%	16.87%	12.88%	15.01%
Venture capital	-0.08%	-3.12%	-14.80%	25.32%	20.14%	15.86%	10.98%	9.90%
Real estate	8.98%	-0.69%	-0.08%	12.72%	10.57%	11.57%	7.25%	8.05%
Real assets	2.79%	0.64%	7.28%	15.05%	7.51%	6.54%	7.02%	9.13%
Private debt	1.89%	2.49%	3.75%	10.75%	8.64%	9.61%	8.64%	9.81%
Funds of funds	3.63%	-0.15%	-9.74%	23.76%	18.83%	15.68%	12.69%	12.91%
Secondaries	1.42%	-0.28%	5.91%	20.93%	15.91%	12.51%	10.85%	12.42%
S&P 500	8.74%	7.50%	-7.73%	18.60%	11.19%	12.24%	10.06%	10.37%
Morningstar US	8.49%	7.40%	-8.60%	18.32%	10.53%	11.80%	10.00%	10.58%
Morningstar US Small Cap Growth	7.34%	10.20%	-15.17%	9.95%	3.98%	8.28%	8.57%	10.01%
Morningstar US Real Estate	2.30%	1.23%	-19.63%	9.89%	5.43%	5.57%	5.73%	8.66%
Morningstar Real Assets	-0.06%	2.18%	-7.56%	8.76%	4.50%	2.59%	3.67%	6.05%
Morningstar US High Yield	1.65%	3.69%	-3.44%	6.04%	3.21%	4.08%	6.46%	6.89%

*For private fund strategies these are preliminary quarterly returns.
Source: PitchBook | Geography: North America | Data as of March 31, 2023
Note: All public index values are total return CAGRs.

One-year horizon IRRs

Select strategies

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023*	15-year horizon IRR
Private debt 19.5%	Secondaries 20.7%	Oil & gas 19.6%	Secondaries 14.9%	Venture capital 21.6%	Venture capital 20.3%	Growth/ expansion 13.5%	Oil & gas 19.2%	Buyout 19.5%	Growth/ expansion 19.3%	Growth/ expansion 19.5%	Venture capital 35.4%	Venture capital 56.5%	Oil & gas 31.6%	Infrastructure 5.5%	Growth/ expansion 14.7%
Growth/ expansion 8.9%	Growth/ expansion 19.9%	Secondaries 14.2%	Buyout 14.6%	Real estate 18.8%	Infrastructure 14.1%	Buyout 13.4%	Buyout 12.4%	Growth/ expansion 18.0%	Venture capital 17.8%	Venture capital 16.9%	Growth/ expansion 35.2%	Growth/ expansion 52.2%	Infrastructure 9.5%	Buyout 5.1%	Secondaries 12.0%
Buyout 8.6%	Private debt 18.5%	Venture capital 10.8%	Private debt 14.0%	Buyout 18.0%	Real estate 13.1%	Venture capital 12.3%	Growth/ expansion 10.4%	Secondaries 16.0%	Funds of funds 16.2%	Buyout 16.1%	Funds of funds 23.2%	Secondaries 46.4%	Real estate 7.0%	Private capital 3.3%	Buyout 11.8%
Oil & gas 5.1%	Buyout 17.6%	Real estate 9.0%	Growth/ expansion 13.0%	Growth/ expansion 16.5%	Growth/ expansion 12.8%	Funds of funds 11.8%	Private capital 10.0%	Private capital 14.8%	Secondaries 14.2%	Private capital 11.6%	Buyout 21.0%	Funds of funds 46.3%	Secondaries 4.9%	Private debt 2.1%	Venture capital 10.9%
Private capital 2.4%	Oil & gas 17.1%	Private capital 8.2%	Private capital 12.5%	Private capital 15.8%	Buyout 12.6%	Real estate 11.4%	Infrastructure 9.3%	Real estate 13.2%	Infrastructure 11.9%	Funds of funds 11.6%	Private capital 15.3%	Buyout 44.9%	Private debt 4.3%	Secondaries 2.1%	Private capital 10.4%
Funds of funds 0.7%	Private capital 15.7%	Infrastructure 8.1%	Real estate 11.2%	Private debt 11.4%	Private capital 12.4%	Secondaries 10.3%	Real estate 8.9%	Funds of funds 11.9%	Buyout 10.9%	Secondaries 9.7%	Secondaries 12.3%	Oil & gas 44.1%	Private capital 0.1%	Growth/ expansion 1.3%	Funds of funds 9.5%
Venture capital 0.0%	Venture capital 11.8%	Buyout 8.0%	Funds of funds 8.0%	Funds of funds 10.5%	Secondaries 12.4%	Private capital 10.2%	Private debt 8.4%	Private debt 10.2%	Private capital 10.8%	Private debt 8.1%	Infrastructure 8.2%	Private capital 38.2%	Buyout -1.1%	Funds of funds 1.1%	Infrastructure 9.1%
Infrastructure -3.5%	Real estate 11.2%	Growth/ expansion 7.8%	Infrastructure 7.3%	Secondaries 10.1%	Funds of funds 12.0%	Infrastructure 10.2%	Secondaries 7.2%	Venture capital 9.6%	Real estate 7.6%	Real estate 8.0%	Real estate 4.3%	Real estate 27.6%	Funds of funds -5.6%	Venture capital 1.0%	Private debt 8.1%
Secondaries -7.6%	Infrastructure 6.5%	Funds of funds 7.4%	Venture capital 7.3%	Oil & gas 7.1%	Private debt 11.1%	Private debt 5.3%	Funds of funds 7.0%	Oil & gas 8.5%	Private debt 5.7%	Infrastructure 6.4%	Private debt 3.2%	Private debt 16.7%	Growth/ expansion -7.1%	Real estate 0.5%	Real estate 6.9%
Real estate -35.6%	Funds of funds 5.1%	Private debt 3.3%	Oil & gas 7.1%	Infrastructure 4.4%	Oil & gas -2.5%	Oil & gas -21.4%	Venture capital 0.2%	Infrastructure 7.6%	Oil & gas 4.3%	Oil & gas -11.9%	Oil & gas -20.6%	Infrastructure 15.8%	Venture capital -17.8%	Oil & gas -2.8%	Oil & gas 5.6%

Source: PitchBook | Geography: Global | Data as of March 31, 2023

Private equity

Private equity

IRRs by vintage

Pooled IRRs

IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	10.63%	10.90%	31	25.30%	17.04%	12.06%	6.34%	-0.81%	11.02%	66
2000	13.59%	10.66%	43	29.26%	21.69%	13.10%	7.97%	-2.82%	12.22%	79
2001	22.28%	18.98%	19	49.18%	27.19%	16.20%	8.50%	2.28%	21.71%	45
2002	19.63%	16.14%	24	37.40%	28.71%	17.07%	6.44%	0.08%	18.58%	39
2003	14.79%	12.88%	25	35.54%	20.35%	12.70%	5.32%	0.02%	23.69%	45
2004	11.54%	10.55%	36	29.30%	17.97%	11.30%	3.00%	-1.96%	16.45%	55
2005	11.09%	10.19%	52	21.12%	14.03%	9.36%	3.91%	0.55%	11.78%	80
2006	8.34%	9.51%	72	19.67%	13.45%	9.60%	5.16%	2.60%	10.77%	107
2007	10.60%	11.03%	71	26.16%	16.80%	10.85%	6.05%	-0.29%	13.65%	119
2008	14.77%	13.86%	59	25.12%	20.20%	13.15%	8.23%	-1.25%	16.85%	82
2009	18.78%	17.42%	25	26.32%	23.18%	13.79%	9.90%	4.30%	12.24%	35
2010	13.64%	13.25%	27	27.90%	24.70%	14.22%	7.00%	1.70%	13.09%	45
2011	17.57%	17.45%	46	36.42%	24.70%	17.57%	13.29%	7.10%	19.79%	58
2012	17.13%	16.96%	59	35.34%	25.69%	16.30%	10.16%	2.41%	14.19%	74
2013	16.21%	15.95%	61	32.40%	24.12%	16.70%	10.70%	4.95%	12.16%	73
2014	21.37%	20.58%	58	34.01%	26.70%	19.67%	12.44%	7.25%	14.50%	70
2015	22.39%	22.10%	61	33.91%	29.40%	18.74%	14.08%	8.30%	11.49%	74
2016	21.01%	23.50%	64	37.95%	27.00%	21.13%	14.96%	10.24%	13.98%	86
2017	23.66%	21.61%	81	39.58%	28.43%	19.37%	14.70%	9.70%	14.09%	92
2018	22.64%	23.97%	81	44.18%	34.01%	22.80%	15.43%	10.30%	28.94%	99
2019	23.26%	21.90%	97	40.18%	29.61%	19.23%	11.15%	6.48%	15.33%	120
2020	20.63%	20.77%	72	43.97%	25.54%	16.00%	8.21%	2.54%	24.21%	83
2021	8.18%	13.75%	117	39.08%	20.63%	8.06%	-0.89%	-12.99%	21.69%	126
2022	-3.67%	10.18%	60	48.08%	18.80%	-2.60%	-9.87%	-22.63%	30.12%	57

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private equity

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private equity

PMEs by vintage

Vintage year	S&P 500			Morningstar US			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	10.63%	6.91%	1.41	10.63%	7.19%	1.37	31
2000	13.59%	6.61%	1.38	13.59%	6.84%	1.34	43
2001	22.28%	7.40%	1.63	22.28%	7.61%	1.58	19
2002	19.63%	8.30%	1.50	19.63%	8.52%	1.46	24
2003	14.79%	10.14%	1.41	14.79%	10.37%	1.37	25
2004	11.54%	9.01%	1.31	11.54%	9.15%	1.28	36
2005	11.09%	9.12%	1.26	11.09%	9.21%	1.23	52
2006	8.34%	9.08%	1.05	8.34%	9.05%	1.03	72
2007	10.60%	8.84%	1.00	10.60%	8.80%	0.99	71
2008	14.77%	9.70%	1.05	14.77%	9.68%	1.04	59
2009	18.78%	14.36%	1.16	18.78%	14.30%	1.16	25
2010	13.64%	12.45%	1.11	13.64%	12.25%	1.11	27
2011	17.57%	11.98%	1.17	17.57%	11.65%	1.18	46
2012	17.13%	12.56%	1.16	17.13%	12.22%	1.18	59
2013	16.21%	12.34%	1.14	16.21%	11.96%	1.16	61
2014	21.37%	11.13%	1.37	21.37%	10.64%	1.39	58
2015	22.39%	10.69%	1.32	22.39%	10.23%	1.33	61
2016	21.01%	12.86%	1.28	21.01%	12.57%	1.30	64
2017	23.66%	11.44%	1.35	23.66%	10.95%	1.37	81
2018	22.64%	9.83%	1.30	22.64%	9.32%	1.32	81
2019	23.26%	12.00%	1.31	23.26%	11.38%	1.33	97
2020	20.63%	11.18%	1.26	20.63%	10.70%	1.28	72
2021	8.18%	3.30%	1.09	8.18%	1.22%	1.10	117
2022	-3.67%	-8.87%	0.99	-3.67%	-9.48%	0.99	60

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private equity

Multiples by vintage

Vintage year	Pooled multiples			Equal-weighted pooled multiples			Number of funds
	TVPI	DPI	RVPI	TVPI	DPI	RVPI	
1999	1.59x	1.59x	0.00x	1.66x	1.66x	0.00x	31
2000	1.74x	1.73x	0.01x	1.62x	1.60x	0.02x	43
2001	2.08x	2.08x	0.00x	1.85x	1.85x	0.00x	19
2002	1.96x	1.95x	0.01x	1.82x	1.81x	0.01x	24
2003	1.90x	1.88x	0.02x	1.73x	1.69x	0.04x	25
2004	1.69x	1.68x	0.02x	1.63x	1.59x	0.04x	36
2005	1.75x	1.71x	0.04x	1.66x	1.60x	0.06x	52
2006	1.55x	1.54x	0.02x	1.62x	1.58x	0.04x	72
2007	1.65x	1.59x	0.06x	1.67x	1.60x	0.07x	71
2008	1.75x	1.68x	0.06x	1.75x	1.67x	0.09x	59
2009	2.04x	1.91x	0.13x	1.98x	1.85x	0.14x	25
2010	2.19x	1.92x	0.27x	1.96x	1.70x	0.26x	27
2011	2.09x	1.79x	0.31x	2.07x	1.80x	0.27x	46
2012	1.92x	1.42x	0.50x	1.89x	1.48x	0.41x	59
2013	1.88x	1.35x	0.53x	1.91x	1.37x	0.54x	61
2014	2.21x	1.36x	0.85x	2.22x	1.42x	0.80x	58
2015	2.03x	1.23x	0.80x	2.09x	1.24x	0.85x	61
2016	1.93x	0.94x	0.99x	2.00x	1.04x	0.96x	64
2017	1.82x	0.62x	1.20x	1.73x	0.63x	1.09x	81
2018	1.52x	0.32x	1.20x	1.64x	0.44x	1.20x	81
2019	1.44x	0.22x	1.22x	1.42x	0.24x	1.17x	97
2020	1.26x	0.14x	1.12x	1.29x	0.16x	1.14x	72
2021	1.07x	0.05x	1.02x	1.14x	0.09x	1.05x	117
2022	0.98x	0.03x	0.95x	1.06x	0.05x	1.00x	60

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private equity

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999	2.43x	2.07x	1.59x	1.18x	0.99x	2.43x	2.07x	1.59x	1.18x	0.99x	31
2000	2.39x	2.14x	1.66x	1.24x	0.75x	2.39x	2.06x	1.66x	1.18x	0.75x	43
2001	2.68x	2.26x	1.62x	1.49x	1.20x	2.67x	2.26x	1.60x	1.49x	1.20x	19
2002	2.87x	2.14x	1.78x	1.49x	1.18x	2.80x	2.14x	1.78x	1.49x	1.18x	24
2003	2.50x	1.89x	1.75x	1.41x	1.14x	2.50x	1.88x	1.74x	1.38x	1.02x	25
2004	2.62x	2.05x	1.61x	1.18x	0.71x	2.55x	2.05x	1.59x	1.17x	0.70x	36
2005	2.39x	1.92x	1.59x	1.21x	1.02x	2.22x	1.83x	1.54x	1.18x	0.99x	52
2006	2.18x	1.83x	1.57x	1.33x	1.14x	2.09x	1.80x	1.55x	1.29x	0.99x	72
2007	2.41x	2.08x	1.66x	1.29x	0.98x	2.40x	1.99x	1.62x	1.17x	0.91x	71
2008	2.34x	2.09x	1.68x	1.37x	0.98x	2.25x	2.01x	1.59x	1.31x	0.92x	59
2009	2.75x	2.38x	1.92x	1.59x	1.28x	2.60x	2.38x	1.68x	1.38x	1.11x	25
2010	3.04x	2.36x	1.80x	1.25x	1.12x	2.84x	2.35x	1.50x	1.12x	0.71x	27
2011	3.22x	2.44x	1.95x	1.62x	1.41x	2.98x	2.16x	1.64x	1.28x	0.97x	46
2012	2.69x	2.37x	1.81x	1.52x	1.07x	2.45x	1.95x	1.46x	1.05x	0.70x	59
2013	2.81x	2.11x	1.81x	1.47x	1.04x	2.19x	1.55x	1.30x	0.90x	0.42x	61
2014	3.64x	2.38x	2.07x	1.64x	1.38x	2.47x	1.77x	1.25x	0.85x	0.52x	58
2015	2.90x	2.40x	1.96x	1.64x	1.41x	1.70x	1.45x	1.19x	0.85x	0.52x	61
2016	2.68x	2.18x	1.90x	1.58x	1.41x	1.71x	1.35x	0.91x	0.61x	0.32x	64
2017	2.48x	2.10x	1.55x	1.39x	1.23x	1.18x	0.85x	0.49x	0.34x	0.18x	81
2018	2.16x	1.83x	1.58x	1.39x	1.24x	0.92x	0.62x	0.36x	0.16x	0.05x	81
2019	1.82x	1.55x	1.33x	1.18x	1.07x	0.57x	0.36x	0.14x	0.05x	0.00x	97
2020	1.68x	1.36x	1.21x	1.09x	1.01x	0.40x	0.23x	0.06x	0.00x	0.00x	72
2021	1.38x	1.15x	1.06x	0.96x	0.89x	0.16x	0.04x	0.00x	0.00x	0.00x	117
2022	1.22x	1.11x	1.00x	0.90x	0.72x	0.20x	0.03x	0.00x	0.00x	0.00x	60

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private equity

Quarterly return

Quarter end	1-quarter return
Q1 2001	-7.72%
Q2 2001	1.04%
Q3 2001	-7.99%
Q4 2001	-2.26%
Q1 2002	-2.56%
Q2 2002	-4.45%
Q3 2002	-5.09%
Q4 2002	0.39%
Q1 2003	-0.96%
Q2 2003	7.02%
Q3 2003	4.48%
Q4 2003	10.14%
Q1 2004	10.88%
Q2 2004	-4.83%
Q3 2004	2.87%
Q4 2004	13.55%
Q1 2005	2.82%
Q2 2005	7.91%
Q3 2005	7.47%
Q4 2005	9.79%
Q1 2006	4.20%
Q2 2006	3.53%
Q3 2006	4.20%
Q4 2006	11.36%

Quarter end	1-quarter return
Q1 2007	6.27%
Q2 2007	8.98%
Q3 2007	3.23%
Q4 2007	2.40%
Q1 2008	-0.87%
Q2 2008	-0.73%
Q3 2008	-6.38%
Q4 2008	-12.54%
Q1 2009	-5.70%
Q2 2009	4.39%
Q3 2009	4.32%
Q4 2009	7.03%
Q1 2010	4.48%
Q2 2010	2.41%
Q3 2010	3.09%
Q4 2010	7.98%
Q1 2011	5.49%
Q2 2011	4.86%
Q3 2011	-2.24%
Q4 2011	1.90%
Q1 2012	6.18%
Q2 2012	1.12%
Q3 2012	3.73%
Q4 2012	2.76%

Quarter end	1-quarter return
Q1 2013	4.27%
Q2 2013	3.97%
Q3 2013	5.51%
Q4 2013	5.78%
Q1 2014	5.01%
Q2 2014	4.82%
Q3 2014	1.37%
Q4 2014	3.68%
Q1 2015	5.20%
Q2 2015	6.21%
Q3 2015	0.57%
Q4 2015	1.30%
Q1 2016	1.33%
Q2 2016	5.53%
Q3 2016	4.56%
Q4 2016	1.34%
Q1 2017	4.70%
Q2 2017	4.99%
Q3 2017	3.48%
Q4 2017	4.07%
Q1 2018	4.48%
Q2 2018	4.63%
Q3 2018	4.69%
Q4 2018	-1.57%

Quarter end	1-quarter return
Q1 2019	5.41%
Q2 2019	2.25%
Q3 2019	3.55%
Q4 2019	4.49%
Q1 2020	-7.96%
Q2 2020	11.06%
Q3 2020	11.96%
Q4 2020	7.60%
Q1 2021	16.06%
Q2 2021	13.33%
Q3 2021	7.91%
Q4 2021	6.25%
Q1 2022	1.71%
Q2 2022	-2.70%
Q3 2022	-1.19%
Q4 2022	0.84%
Q1 2023	4.12%
Q2 2023*	3.12%

*Preliminary figure

Source: PitchBook | Geography: North America

Venture capital

Venture capital

IRRs by vintage

Pooled IRRs

IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	-2.23%	-3.40%	37	9.12%	2.44%	-4.65%	-13.77%	-20.93%	13.77%	67
2000	-1.09%	-2.42%	56	10.44%	4.68%	-0.80%	-5.65%	-13.42%	10.93%	100
2001	4.98%	3.25%	33	12.91%	6.80%	3.50%	-3.40%	-11.45%	17.02%	57
2002	1.84%	1.70%	17	11.24%	6.15%	2.48%	-9.90%	-17.06%	11.91%	35
2003	5.33%	1.05%	18	14.66%	8.08%	2.90%	-9.69%	-20.22%	26.84%	30
2004	4.96%	8.90%	20	13.48%	8.60%	1.06%	-9.00%	-20.28%	17.80%	37
2005	7.40%	7.22%	29	12.75%	9.58%	3.66%	-0.40%	-11.43%	18.04%	50
2006	5.49%	4.02%	42	15.92%	10.24%	4.74%	-5.49%	-9.80%	13.73%	64
2007	13.59%	13.64%	40	29.40%	17.00%	11.78%	6.05%	-3.20%	13.57%	61
2008	17.19%	11.43%	38	29.54%	20.91%	10.65%	-3.43%	-17.58%	24.16%	59
2009	12.44%	10.45%	21	30.46%	20.79%	9.50%	0.89%	-4.28%	18.56%	29
2010	14.99%	16.50%	22	38.12%	24.10%	11.20%	1.80%	-3.94%	18.65%	33
2011	21.44%	22.49%	19	32.25%	22.57%	16.88%	9.05%	-2.24%	15.53%	40
2012	17.48%	19.88%	16	45.56%	29.03%	17.51%	9.74%	1.92%	15.92%	30
2013	18.11%	15.42%	21	37.93%	27.30%	17.17%	11.09%	4.13%	16.83%	32
2014	20.62%	19.60%	31	32.82%	24.60%	17.70%	11.45%	7.60%	12.03%	42
2015	18.42%	19.06%	30	33.20%	28.22%	20.71%	11.49%	3.61%	11.65%	46
2016	22.79%	24.44%	38	37.91%	29.99%	21.80%	12.40%	7.22%	13.98%	51
2017	24.66%	27.43%	25	51.41%	37.88%	22.25%	16.50%	9.79%	18.77%	37
2018	24.10%	22.67%	30	40.30%	29.68%	21.53%	14.92%	10.06%	24.41%	50
2019	24.26%	28.08%	31	50.36%	33.33%	21.50%	8.45%	2.73%	21.65%	46
2020	17.22%	20.53%	37	40.91%	30.71%	17.34%	3.39%	-1.35%	21.92%	54
2021	8.52%	12.78%	48	35.69%	11.71%	4.97%	-8.20%	-16.67%	24.45%	70
2022	-20.19%	-6.84%	44	8.48%	-2.58%	-11.99%	-19.40%	-22.10%	14.49%	41

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Venture capital

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Venture capital

PMEs by vintage

Vintage year	S&P 500			Morningstar US Small Cap Growth			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	-2.23%	6.91%	0.77	-2.23%	6.64%	0.77	37
2000	-1.09%	6.61%	0.69	-1.09%	4.34%	0.65	56
2001	4.98%	7.40%	0.92	4.98%	6.03%	0.84	33
2002	1.84%	8.30%	0.78	1.84%	7.24%	0.72	17
2003	5.33%	10.14%	0.93	5.33%	9.86%	0.87	18
2004	4.96%	9.01%	0.85	4.96%	7.59%	0.80	20
2005	7.40%	9.12%	0.93	7.40%	7.87%	0.89	29
2006	5.49%	9.08%	0.77	5.49%	7.19%	0.74	42
2007	13.59%	8.84%	1.12	13.59%	7.41%	1.10	40
2008	17.19%	9.70%	1.17	17.19%	8.24%	1.18	38
2009	12.44%	14.36%	0.93	12.44%	12.65%	1.00	21
2010	14.99%	12.45%	1.07	14.99%	10.19%	1.18	22
2011	21.44%	11.98%	1.50	21.44%	8.42%	1.66	19
2012	17.48%	12.56%	1.31	17.48%	8.90%	1.54	16
2013	18.11%	12.34%	1.31	18.11%	8.49%	1.53	21
2014	20.62%	11.13%	1.50	20.62%	6.20%	1.80	31
2015	18.42%	10.69%	1.27	18.42%	6.26%	1.53	30
2016	22.79%	12.86%	1.46	22.79%	9.32%	1.85	38
2017	24.66%	11.44%	1.48	24.66%	6.59%	1.88	25
2018	24.10%	9.83%	1.44	24.10%	3.63%	1.90	30
2019	24.26%	12.00%	1.37	24.26%	3.42%	1.77	31
2020	17.22%	11.18%	1.24	17.22%	2.75%	1.58	37
2021	8.52%	3.30%	1.12	8.52%	-17.73%	1.31	48
2022	-20.19%	-8.87%	0.87	-20.19%	-15.68%	0.92	44

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Venture capital

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1999	0.86x	0.82x	0.04x	0.80x	0.79x	0.01x	37
2000	0.93x	0.91x	0.02x	0.84x	0.83x	0.01x	56
2001	1.39x	1.34x	0.05x	1.25x	1.20x	0.05x	33
2002	1.12x	1.10x	0.02x	1.12x	0.98x	0.14x	17
2003	1.38x	1.35x	0.03x	1.06x	1.05x	0.01x	18
2004	1.42x	1.33x	0.09x	1.90x	1.61x	0.29x	20
2005	1.67x	1.54x	0.13x	1.70x	1.54x	0.17x	29
2006	1.43x	1.30x	0.13x	1.33x	1.19x	0.13x	42
2007	2.18x	1.91x	0.27x	2.26x	1.87x	0.39x	40
2008	2.38x	2.21x	0.17x	1.94x	1.67x	0.26x	38
2009	2.23x	1.64x	0.59x	2.05x	1.21x	0.84x	21
2010	2.17x	1.61x	0.55x	2.34x	1.76x	0.58x	22
2011	3.42x	2.60x	0.81x	3.78x	2.91x	0.86x	19
2012	2.78x	1.58x	1.20x	3.37x	1.97x	1.40x	16
2013	2.33x	1.28x	1.05x	2.19x	1.07x	1.11x	21
2014	2.89x	1.29x	1.59x	2.91x	1.38x	1.53x	31
2015	2.15x	0.84x	1.31x	2.23x	0.71x	1.52x	30
2016	2.29x	0.63x	1.66x	2.35x	0.72x	1.63x	38
2017	2.11x	0.48x	1.62x	2.33x	0.53x	1.80x	25
2018	1.85x	0.21x	1.64x	1.91x	0.29x	1.62x	30
2019	1.60x	0.12x	1.48x	1.65x	0.16x	1.50x	31
2020	1.29x	0.06x	1.24x	1.34x	0.08x	1.26x	37
2021	1.10x	0.01x	1.09x	1.16x	0.00x	1.16x	48
2022	0.82x	0.03x	0.79x	0.94x	0.01x	0.93x	44

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Venture capital

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999	1.46x	1.04x	0.73x	0.40x	0.21x	1.41x	1.04x	0.73x	0.40x	0.21x	37
2000	1.43x	1.13x	0.86x	0.53x	0.24x	1.43x	1.13x	0.86x	0.52x	0.22x	56
2001	2.04x	1.66x	1.25x	0.79x	0.37x	1.87x	1.62x	1.25x	0.73x	0.35x	33
2002	1.75x	1.50x	1.18x	0.68x	0.34x	1.66x	1.49x	1.05x	0.49x	0.26x	17
2003	1.57x	1.44x	1.13x	0.48x	0.39x	1.57x	1.42x	1.13x	0.48x	0.39x	18
2004	3.41x	1.85x	1.10x	0.68x	0.41x	1.99x	1.36x	1.02x	0.66x	0.38x	20
2005	2.66x	2.01x	1.30x	1.02x	0.54x	2.26x	1.76x	1.28x	0.98x	0.51x	29
2006	2.26x	1.76x	1.38x	0.67x	0.40x	2.21x	1.54x	1.19x	0.62x	0.29x	42
2007	2.95x	2.66x	1.83x	1.32x	0.74x	2.76x	2.33x	1.69x	1.01x	0.44x	40
2008	4.20x	2.50x	1.52x	0.61x	0.23x	4.02x	2.44x	1.29x	0.33x	0.20x	38
2009	2.94x	2.51x	1.82x	1.19x	0.86x	2.43x	1.62x	0.97x	0.55x	0.49x	21
2010	3.80x	3.03x	1.72x	1.26x	0.85x	3.31x	1.84x	1.23x	0.76x	0.54x	22
2011	4.96x	3.71x	2.24x	1.66x	1.23x	3.49x	2.83x	1.64x	1.25x	0.42x	19
2012	5.10x	2.67x	2.21x	1.45x	1.07x	2.93x	1.97x	1.38x	1.02x	0.46x	16
2013	3.68x	2.60x	2.24x	1.34x	0.67x	1.90x	1.34x	1.10x	0.60x	0.27x	21
2014	5.34x	3.81x	2.28x	1.98x	1.51x	2.27x	1.83x	1.18x	0.65x	0.28x	31
2015	3.46x	2.81x	2.01x	1.50x	1.20x	1.55x	0.99x	0.45x	0.21x	0.00x	30
2016	3.72x	2.79x	2.00x	1.68x	1.35x	1.60x	1.00x	0.56x	0.16x	0.06x	38
2017	3.92x	2.46x	2.12x	1.69x	1.44x	1.23x	0.76x	0.45x	0.13x	0.07x	25
2018	2.73x	2.27x	1.90x	1.45x	1.29x	1.06x	0.42x	0.04x	0.00x	0.00x	30
2019	2.27x	1.91x	1.43x	1.24x	1.03x	0.40x	0.10x	0.01x	0.00x	0.00x	31
2020	1.76x	1.48x	1.24x	1.01x	0.90x	0.24x	0.02x	0.00x	0.00x	0.00x	37
2021	1.31x	1.13x	1.04x	0.92x	0.87x	0.00x	0.00x	0.00x	0.00x	0.00x	48
2022	1.07x	0.97x	0.86x	0.81x	0.76x	0.00x	0.00x	0.00x	0.00x	0.00x	44

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Venture capital

Quarterly return

Quarter end	1-quarter return
Q1 2001	-12.51%
Q2 2001	-8.86%
Q3 2001	-14.98%
Q4 2001	-11.91%
Q1 2002	-7.12%
Q2 2002	-13.46%
Q3 2002	-8.53%
Q4 2002	-13.81%
Q1 2003	-6.33%
Q2 2003	-1.03%
Q3 2003	-2.45%
Q4 2003	2.59%
Q1 2004	0.42%
Q2 2004	1.37%
Q3 2004	-0.98%
Q4 2004	2.81%
Q1 2005	-1.78%
Q2 2005	1.03%
Q3 2005	5.39%
Q4 2005	2.05%
Q1 2006	2.98%
Q2 2006	0.95%
Q3 2006	1.73%
Q4 2006	7.30%

Quarter end	1-quarter return
Q1 2007	2.24%
Q2 2007	5.17%
Q3 2007	2.23%
Q4 2007	4.16%
Q1 2008	2.42%
Q2 2008	-2.30%
Q3 2008	-2.50%
Q4 2008	-9.16%
Q1 2009	-4.07%
Q2 2009	0.02%
Q3 2009	1.14%
Q4 2009	3.00%
Q1 2010	1.53%
Q2 2010	-0.13%
Q3 2010	4.14%
Q4 2010	6.82%
Q1 2011	4.73%
Q2 2011	4.48%
Q3 2011	-0.13%
Q4 2011	1.70%
Q1 2012	4.31%
Q2 2012	1.34%
Q3 2012	-0.36%
Q4 2012	2.26%

Quarter end	1-quarter return
Q1 2013	2.17%
Q2 2013	4.80%
Q3 2013	5.92%
Q4 2013	9.14%
Q1 2014	5.30%
Q2 2014	4.19%
Q3 2014	2.51%
Q4 2014	7.69%
Q1 2015	4.51%
Q2 2015	6.60%
Q3 2015	-1.02%
Q4 2015	2.46%
Q1 2016	-3.54%
Q2 2016	0.51%
Q3 2016	-0.24%
Q4 2016	3.68%
Q1 2017	2.09%
Q2 2017	2.35%
Q3 2017	3.56%
Q4 2017	1.84%
Q1 2018	6.55%
Q2 2018	5.63%
Q3 2018	4.89%
Q4 2018	1.46%

Quarter end	1-quarter return
Q1 2019	6.84%
Q2 2019	2.33%
Q3 2019	0.97%
Q4 2019	5.86%
Q1 2020	-1.75%
Q2 2020	8.82%
Q3 2020	12.71%
Q4 2020	15.13%
Q1 2021	23.41%
Q2 2021	14.10%
Q3 2021	7.97%
Q4 2021	6.32%
Q1 2022	-4.32%
Q2 2022	-9.79%
Q3 2022	-2.65%
Q4 2022	-6.07%
Q1 2023	-1.25%
Q2 2023*	-0.43%

*Preliminary figure

Source: PitchBook | Geography: North America

Real estate

Real estate

IRRs by vintage

Pooled IRRs

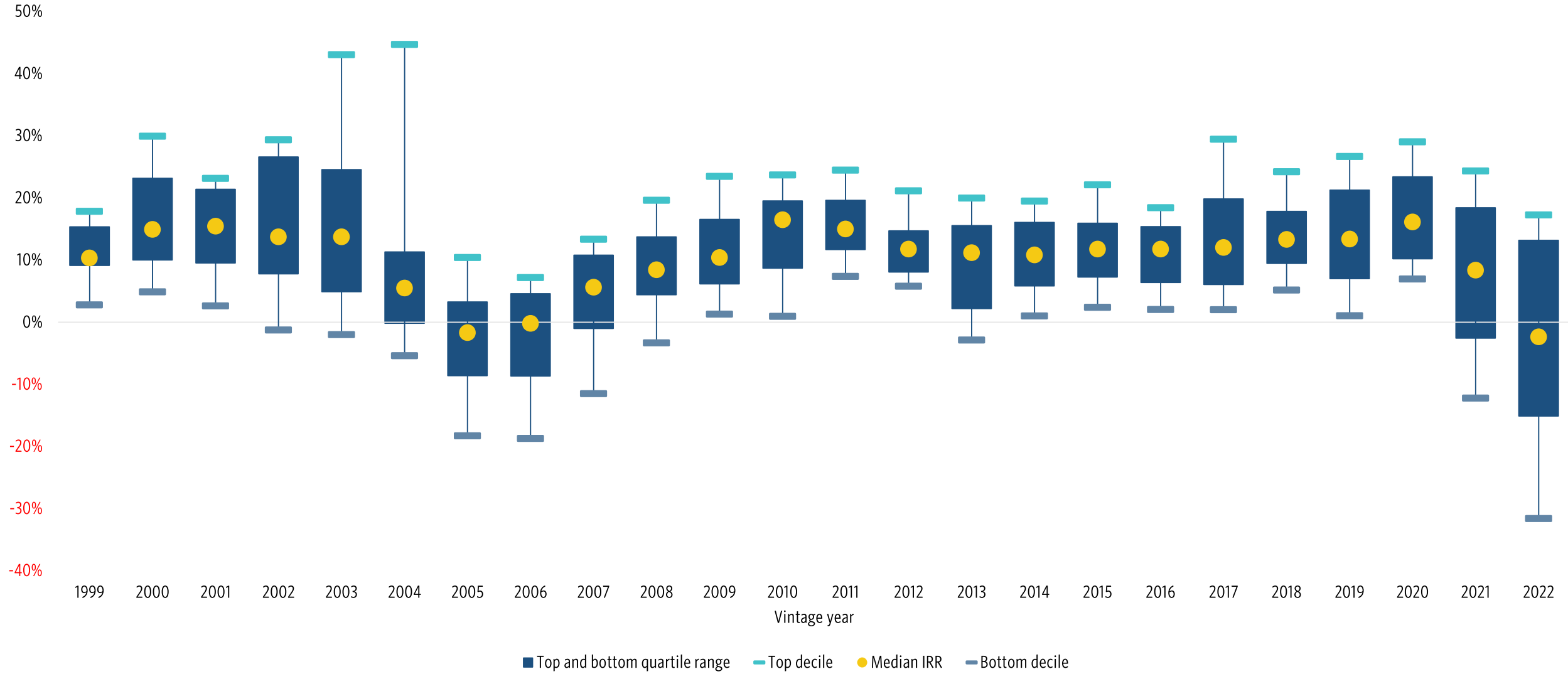
IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	11.24%	9.37%	4	17.84%	15.34%	10.33%	9.14%	2.79%	7.13%	22
2000	16.96%	13.88%	11	29.92%	23.16%	14.91%	10.00%	4.88%	9.61%	22
2001	16.73%	16.73%	1	23.12%	21.40%	15.43%	9.54%	2.61%	8.43%	18
2002	27.34%	21.70%	4	29.34%	26.59%	13.73%	7.77%	-1.27%	16.83%	19
2003	10.53%	10.00%	5	43.03%	24.57%	13.73%	4.92%	-2.03%	44.01%	28
2004	4.86%	7.05%	7	44.70%	11.29%	5.50%	-0.16%	-5.40%	21.16%	31
2005	0.49%	-0.58%	25	10.41%	3.25%	-1.70%	-8.62%	-18.31%	19.65%	47
2006	-0.60%	-1.47%	28	7.16%	4.57%	-0.21%	-8.67%	-18.72%	12.56%	54
2007	4.70%	2.20%	45	13.35%	10.80%	5.62%	-1.00%	-11.50%	14.46%	66
2008	8.63%	6.43%	27	19.61%	13.72%	8.42%	4.41%	-3.32%	12.61%	48
2009	8.52%	8.09%	18	23.44%	16.55%	10.40%	6.18%	1.30%	10.14%	27
2010	21.07%	14.76%	14	23.69%	19.50%	16.49%	8.70%	0.93%	10.60%	27
2011	15.70%	15.14%	33	24.45%	19.63%	14.99%	11.71%	7.36%	7.25%	48
2012	13.17%	12.00%	35	21.14%	14.71%	11.75%	8.08%	5.78%	6.18%	49
2013	8.53%	8.51%	37	19.96%	15.55%	11.17%	2.18%	-2.90%	11.65%	44
2014	12.04%	11.89%	35	19.48%	16.06%	10.82%	5.84%	1.00%	11.28%	44
2015	12.44%	12.39%	51	22.09%	15.94%	11.75%	7.28%	2.37%	7.51%	58
2016	13.08%	13.44%	35	18.42%	15.37%	11.75%	6.40%	2.04%	8.05%	49
2017	11.72%	12.00%	54	29.42%	19.83%	12.01%	6.06%	2.00%	11.05%	52
2018	14.24%	15.43%	50	24.21%	17.83%	13.30%	9.46%	5.15%	9.43%	55
2019	18.84%	15.07%	42	26.66%	21.27%	13.36%	7.00%	1.02%	11.45%	45
2020	20.53%	18.49%	28	29.01%	23.41%	16.11%	10.20%	6.93%	10.24%	34
2021	8.70%	9.56%	57	24.33%	18.40%	8.35%	-2.56%	-12.22%	30.18%	67
2022	2.80%	6.05%	34	17.25%	13.19%	-2.37%	-15.11%	-31.61%	22.75%	30

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real estate

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real estate

PMEs by vintage

Vintage year	S&P 500			Morningstar US Real Estate			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	11.24%	6.91%	1.44	11.24%	9.12%	0.93	4
2000	16.96%	6.61%	1.52	16.96%	9.47%	0.97	11
2001	16.73%	7.40%	1.27	16.73%	8.86%	0.91	1
2002	27.34%	8.30%	1.58	27.34%	8.49%	1.35	4
2003	10.53%	10.14%	1.08	10.53%	8.93%	0.97	5
2004	4.86%	9.01%	0.94	4.86%	7.20%	0.96	7
2005	0.49%	9.12%	0.68	0.49%	6.62%	0.75	25
2006	-0.60%	9.08%	0.58	-0.60%	5.43%	0.63	28
2007	4.70%	8.84%	0.77	4.70%	3.96%	0.80	45
2008	8.63%	9.70%	0.87	8.63%	6.25%	0.92	27
2009	8.52%	14.36%	0.80	8.52%	12.57%	0.84	18
2010	21.07%	12.45%	1.13	21.07%	8.99%	1.17	14
2011	15.70%	11.98%	1.06	15.70%	7.32%	1.19	33
2012	13.17%	12.56%	1.01	13.17%	7.11%	1.17	35
2013	8.53%	12.34%	0.93	8.53%	6.17%	1.05	37
2014	12.04%	11.13%	0.97	12.04%	6.59%	1.17	35
2015	12.44%	10.69%	0.99	12.44%	4.29%	1.22	51
2016	13.08%	12.86%	1.00	13.08%	5.79%	1.23	35
2017	11.72%	11.44%	0.95	11.72%	4.67%	1.12	54
2018	14.24%	9.83%	1.09	14.24%	5.98%	1.25	50
2019	18.84%	12.00%	1.19	18.84%	4.18%	1.33	42
2020	20.53%	11.18%	1.26	20.53%	2.52%	1.33	28
2021	8.70%	3.30%	1.10	8.70%	2.04%	1.16	57
2022	2.80%	-8.87%	1.01	2.80%	-15.18%	1.05	34

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real estate

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1999	1.44x	1.43x	0.00x	1.44x	1.44x	0.00x	4
2000	1.66x	1.66x	0.00x	1.58x	1.58x	0.00x	11
2001	1.52x	1.52x	0.00x	1.52x	1.52x	0.00x	1
2002	2.36x	1.93x	0.43x	2.14x	1.54x	0.60x	4
2003	1.34x	1.33x	0.00x	1.33x	1.32x	0.01x	5
2004	1.23x	1.18x	0.04x	1.39x	1.27x	0.12x	7
2005	1.03x	1.02x	0.01x	0.96x	0.95x	0.01x	25
2006	0.96x	0.89x	0.07x	0.90x	0.85x	0.06x	28
2007	1.26x	1.22x	0.04x	1.12x	1.07x	0.04x	45
2008	1.51x	1.42x	0.09x	1.34x	1.29x	0.05x	27
2009	1.41x	1.34x	0.07x	1.40x	1.33x	0.07x	18
2010	1.59x	1.56x	0.02x	1.65x	1.48x	0.17x	14
2011	1.64x	1.51x	0.13x	1.70x	1.52x	0.18x	33
2012	1.54x	1.38x	0.15x	1.45x	1.35x	0.11x	35
2013	1.32x	1.16x	0.16x	1.38x	1.14x	0.24x	37
2014	1.45x	1.16x	0.29x	1.56x	1.10x	0.46x	35
2015	1.51x	0.97x	0.54x	1.47x	1.04x	0.43x	51
2016	1.50x	0.95x	0.55x	1.50x	0.97x	0.53x	35
2017	1.42x	0.77x	0.65x	1.44x	0.75x	0.69x	54
2018	1.34x	0.41x	0.92x	1.38x	0.56x	0.82x	50
2019	1.34x	0.29x	1.05x	1.29x	0.38x	0.90x	42
2020	1.26x	0.14x	1.12x	1.24x	0.14x	1.10x	28
2021	1.08x	0.14x	0.94x	1.09x	0.15x	0.95x	57
2022	1.01x	0.10x	0.91x	1.04x	0.16x	0.88x	34

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real estate

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999		1.55x	1.28x	1.20x			1.55x	1.28x	1.20x		4
2000	2.02x	1.76x	1.51x	1.35x	1.20x	2.02x	1.76x	1.51x	1.35x	1.19x	11
2001			1.52x					1.52x			1
2002		2.57x	2.23x	1.77x			1.80x	1.48x	1.22x		4
2003		1.31x	1.25x	1.11x			1.31x	1.24x	1.10x		5
2004		1.71x	1.34x	0.97x			1.55x	1.34x	0.94x		7
2005	1.41x	1.10x	0.98x	0.73x	0.50x	1.41x	1.10x	0.93x	0.73x	0.49x	25
2006	1.63x	1.17x	0.79x	0.48x	0.26x	1.39x	1.11x	0.79x	0.40x	0.18x	28
2007	1.68x	1.43x	1.27x	0.83x	0.49x	1.67x	1.42x	1.15x	0.76x	0.43x	45
2008	1.86x	1.65x	1.46x	1.10x	0.57x	1.71x	1.62x	1.46x	1.09x	0.54x	27
2009	1.98x	1.59x	1.39x	1.20x	0.87x	1.86x	1.59x	1.39x	1.13x	0.61x	18
2010	2.01x	1.74x	1.65x	1.55x	1.24x	1.73x	1.68x	1.57x	1.51x	0.96x	14
2011	2.26x	1.90x	1.63x	1.49x	1.24x	2.00x	1.81x	1.55x	1.29x	1.03x	33
2012	1.92x	1.54x	1.40x	1.33x	1.16x	1.82x	1.49x	1.37x	1.06x	0.91x	35
2013	1.81x	1.61x	1.39x	1.16x	0.93x	1.62x	1.59x	1.30x	0.82x	0.44x	37
2014	2.12x	1.69x	1.49x	1.27x	1.17x	1.52x	1.44x	1.07x	0.76x	0.50x	35
2015	1.78x	1.66x	1.41x	1.23x	1.05x	1.66x	1.43x	1.01x	0.54x	0.23x	51
2016	1.70x	1.61x	1.51x	1.27x	1.23x	1.61x	1.27x	0.96x	0.59x	0.21x	35
2017	1.96x	1.62x	1.40x	1.23x	1.07x	1.44x	1.08x	0.61x	0.29x	0.11x	54
2018	1.67x	1.47x	1.35x	1.20x	1.09x	1.06x	0.78x	0.48x	0.24x	0.11x	50
2019	1.58x	1.38x	1.23x	1.14x	0.85x	0.95x	0.48x	0.17x	0.11x	0.05x	42
2020	1.41x	1.29x	1.19x	1.14x	1.06x	0.40x	0.26x	0.08x	0.03x	0.00x	28
2021	1.23x	1.14x	1.07x	0.96x	0.74x	0.30x	0.17x	0.04x	0.00x	0.00x	57
2022	1.13x	1.03x	0.96x	0.87x	0.67x	0.33x	0.07x	0.00x	0.00x	0.00x	34

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real estate

Quarterly return

Quarter end	1-quarter return
Q1 2001	4.63%
Q2 2001	1.78%
Q3 2001	0.30%
Q4 2001	2.89%
Q1 2002	1.97%
Q2 2002	1.30%
Q3 2002	1.83%
Q4 2002	-0.87%
Q1 2003	-1.02%
Q2 2003	1.69%
Q3 2003	4.27%
Q4 2003	9.35%
Q1 2004	-2.59%
Q2 2004	4.51%
Q3 2004	2.75%
Q4 2004	15.03%
Q1 2005	1.60%
Q2 2005	8.07%
Q3 2005	13.41%
Q4 2005	15.99%
Q1 2006	5.18%
Q2 2006	7.52%
Q3 2006	7.19%
Q4 2006	19.93%

Quarter end	1-quarter return
Q1 2007	-3.97%
Q2 2007	8.63%
Q3 2007	2.51%
Q4 2007	5.99%
Q1 2008	-1.82%
Q2 2008	-3.32%
Q3 2008	-8.56%
Q4 2008	-11.32%
Q1 2009	-16.39%
Q2 2009	-9.12%
Q3 2009	-6.84%
Q4 2009	-4.39%
Q1 2010	-7.17%
Q2 2010	6.86%
Q3 2010	3.68%
Q4 2010	8.12%
Q1 2011	6.15%
Q2 2011	3.28%
Q3 2011	0.10%
Q4 2011	0.06%
Q1 2012	4.55%
Q2 2012	0.31%
Q3 2012	5.48%
Q4 2012	2.85%

Quarter end	1-quarter return
Q1 2013	3.97%
Q2 2013	5.78%
Q3 2013	0.95%
Q4 2013	8.43%
Q1 2014	3.00%
Q2 2014	3.31%
Q3 2014	4.59%
Q4 2014	4.51%
Q1 2015	2.59%
Q2 2015	4.21%
Q3 2015	2.50%
Q4 2015	2.07%
Q1 2016	1.95%
Q2 2016	1.93%
Q3 2016	3.44%
Q4 2016	1.59%
Q1 2017	3.91%
Q2 2017	1.77%
Q3 2017	3.33%
Q4 2017	1.53%
Q1 2018	3.19%
Q2 2018	2.30%
Q3 2018	1.81%
Q4 2018	-0.85%

Quarter end	1-quarter return
Q1 2019	1.98%
Q2 2019	1.38%
Q3 2019	3.63%
Q4 2019	1.44%
Q1 2020	-2.58%
Q2 2020	0.07%
Q3 2020	4.32%
Q4 2020	0.32%
Q1 2021	6.77%
Q2 2021	6.01%
Q3 2021	10.16%
Q4 2021	7.70%
Q1 2022	8.08%
Q2 2022	2.23%
Q3 2022	-0.34%
Q4 2022	-0.81%
Q1 2023	0.09%
Q2 2023*	2.32%

*Preliminary figure

Source: PitchBook | Geography: North America

Real assets

Real assets

IRRs by vintage

Pooled IRRs

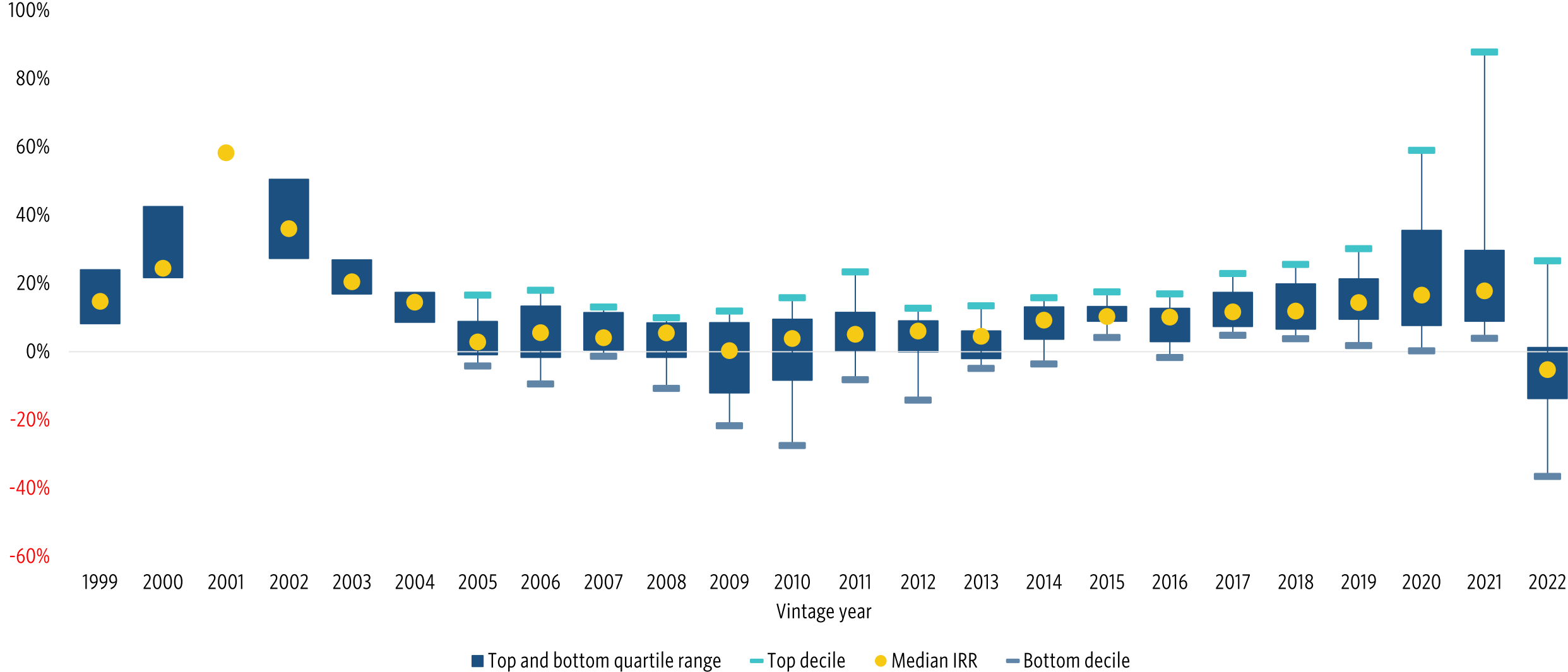
IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	25.38%	25.38%	1		24.00%	14.70%	8.20%		12.95%	5
2000					42.51%	24.43%	21.70%		22.64%	6
2001	49.72%	49.72%	1			58.25%			15.63%	2
2002	35.13%	40.17%	4		50.53%	36.05%	27.35%		13.65%	5
2003	28.04%	28.76%	2		26.90%	20.45%	16.92%		19.96%	6
2004	19.87%	14.51%	5		17.37%	14.48%	8.62%		9.94%	7
2005	6.64%	6.21%	9	16.58%	8.86%	2.85%	-0.90%	-4.21%	9.23%	14
2006	6.34%	4.64%	12	18.00%	13.39%	5.53%	-1.66%	-9.47%	14.19%	15
2007	4.02%	4.19%	18	13.05%	11.49%	4.06%	0.46%	-1.37%	8.24%	24
2008	1.49%	3.84%	18	9.92%	8.43%	5.50%	-1.65%	-10.75%	13.31%	20
2009	-2.16%	-0.31%	9	11.89%	8.53%	0.30%	-12.08%	-21.70%	13.34%	12
2010	4.70%	2.82%	15	15.78%	9.51%	3.84%	-8.37%	-27.52%	20.28%	20
2011	5.60%	4.21%	9	23.34%	11.52%	5.10%	0.09%	-8.22%	12.45%	14
2012	5.69%	5.68%	20	12.71%	9.08%	6.00%	-0.11%	-14.21%	11.43%	24
2013	6.83%	5.82%	12	13.44%	6.10%	4.49%	-1.99%	-4.92%	7.35%	17
2014	8.90%	6.30%	33	15.82%	13.10%	9.25%	3.64%	-3.59%	12.35%	37
2015	10.41%	10.20%	24	17.50%	13.25%	10.30%	8.91%	4.12%	39.22%	23
2016	11.11%	14.39%	26	16.91%	12.70%	10.14%	2.95%	-1.73%	9.59%	35
2017	16.33%	14.31%	19	22.89%	17.36%	11.65%	7.41%	4.76%	7.51%	26
2018	11.21%	12.99%	30	25.58%	19.87%	11.90%	6.63%	3.76%	10.63%	30
2019	13.52%	18.65%	24	30.14%	21.37%	14.35%	9.50%	1.76%	15.52%	28
2020	21.32%	19.40%	17	58.99%	35.53%	16.56%	7.71%	0.24%	32.73%	27
2021	7.13%	14.39%	16	87.80%	29.70%	17.82%	8.90%	3.89%	40.09%	14
2022	-2.54%	-7.19%	16	26.62%	1.24%	-5.28%	-13.72%	-36.59%	25.60%	15

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real assets

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real assets

PMEs by vintage

Vintage year	S&P 500			Morningstar Real Assets			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	25.38%	6.91%	1.82	25.38%			1
2000							
2001	49.72%	7.40%	2.35	49.72%	6.33%	2.09	1
2002	35.13%	8.30%	1.58	35.13%	6.27%	1.53	4
2003	28.04%	10.14%	1.57	28.04%	5.99%	1.52	2
2004	19.87%	9.01%	1.43	19.87%	5.34%	1.33	5
2005	6.64%	9.12%	1.06	6.64%	4.90%	1.03	9
2006	6.34%	9.08%	0.93	6.34%	4.59%	1.07	12
2007	4.02%	8.84%	0.78	4.02%	4.39%	0.96	18
2008	1.49%	9.70%	0.60	1.49%	3.73%	0.88	18
2009	-2.16%	14.36%	0.52	-2.16%	5.09%	0.78	9
2010	4.70%	12.45%	0.67	4.70%	3.97%	1.08	15
2011	5.60%	11.98%	0.73	5.60%	2.96%	1.15	9
2012	5.69%	12.56%	0.76	5.69%	2.60%	1.12	20
2013	6.83%	12.34%	0.80	6.83%	2.63%	1.18	12
2014	8.90%	11.13%	0.90	8.90%	3.05%	1.20	33
2015	10.41%	10.69%	0.94	10.41%	2.96%	1.26	24
2016	11.11%	12.86%	0.97	11.11%	4.29%	1.24	26
2017	16.33%	11.44%	1.16	16.33%	4.01%	1.34	19
2018	11.21%	9.83%	1.07	11.21%	4.31%	1.15	30
2019	13.52%	12.00%	1.08	13.52%	4.90%	1.19	24
2020	21.32%	11.18%	1.23	21.32%	5.94%	1.23	17
2021	7.13%	3.30%	1.05	7.13%	4.24%	1.05	16
2022	-2.54%	-8.87%	1.00	-2.54%	-5.36%	0.99	16

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real assets

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1999	2.59x	2.47x	0.12x	2.59x	2.47x	0.12x	1
2000							
2001	2.84x	2.84x	0.00x	2.84x	2.84x	0.00x	1
2002	2.09x	2.09x	0.00x	2.25x	2.25x	0.00x	4
2003	1.96x	1.95x	0.01x	2.11x	2.09x	0.02x	2
2004	1.70x	1.62x	0.07x	1.67x	1.48x	0.19x	5
2005	1.37x	1.27x	0.10x	1.30x	1.26x	0.04x	9
2006	1.37x	1.31x	0.05x	1.31x	1.24x	0.06x	12
2007	1.20x	1.19x	0.01x	1.23x	1.21x	0.02x	18
2008	1.08x	1.00x	0.08x	1.21x	1.00x	0.22x	18
2009	0.90x	0.82x	0.08x	0.98x	0.70x	0.28x	9
2010	1.25x	1.12x	0.13x	1.18x	0.90x	0.27x	15
2011	1.30x	0.96x	0.34x	1.26x	0.87x	0.39x	9
2012	1.27x	0.92x	0.35x	1.29x	0.82x	0.47x	20
2013	1.40x	0.77x	0.63x	1.29x	0.88x	0.40x	12
2014	1.39x	0.79x	0.60x	1.30x	0.67x	0.63x	33
2015	1.47x	0.77x	0.70x	1.48x	0.77x	0.71x	24
2016	1.43x	0.64x	0.79x	1.63x	0.84x	0.78x	26
2017	1.49x	0.40x	1.08x	1.43x	0.44x	0.99x	19
2018	1.22x	0.22x	1.00x	1.38x	0.30x	1.08x	30
2019	1.30x	0.28x	1.02x	1.44x	0.34x	1.10x	24
2020	1.24x	0.18x	1.06x	1.29x	0.29x	1.00x	17
2021	1.06x	0.10x	0.95x	1.18x	0.24x	0.94x	16
2022	0.99x	0.05x	0.94x	0.95x	0.08x	0.87x	16

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real assets

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999			2.59x					2.47x			1
2000											
2001			2.84x					2.84x			1
2002		2.37x	2.08x	2.00x			2.37x	2.08x	2.00x		4
2003			2.19x					2.17x			2
2004		1.84x	1.64x	1.46x			1.84x	1.64x	1.46x		5
2005		1.59x	1.29x	1.02x			1.59x	1.29x	1.02x		9
2006	2.19x	1.57x	1.15x	0.76x	0.68x	2.13x	1.57x	1.14x	0.65x	0.54x	12
2007	1.59x	1.37x	1.15x	1.03x	0.91x	1.58x	1.37x	1.12x	1.03x	0.90x	18
2008	1.83x	1.65x	1.04x	0.86x	0.46x	1.75x	1.41x	0.87x	0.64x	0.14x	18
2009		1.27x	1.03x	0.54x			1.03x	0.52x	0.39x		9
2010	2.18x	1.75x	1.10x	0.65x	0.37x	1.59x	1.28x	0.72x	0.48x	0.34x	15
2011		1.57x	1.33x	1.04x			0.98x	0.74x	0.60x		9
2012	1.78x	1.50x	1.29x	1.00x	0.90x	1.38x	1.10x	0.87x	0.37x	0.25x	20
2013	1.78x	1.50x	1.29x	1.00x	0.86x	1.46x	1.40x	0.80x	0.53x	0.38x	12
2014	1.79x	1.58x	1.38x	1.15x	0.87x	1.09x	0.93x	0.73x	0.38x	0.19x	33
2015	1.83x	1.70x	1.48x	1.27x	1.14x	1.37x	1.05x	0.78x	0.31x	0.12x	24
2016	2.10x	1.71x	1.31x	1.22x	0.93x	1.17x	0.96x	0.52x	0.25x	0.17x	26
2017	1.71x	1.65x	1.43x	1.23x	1.12x	0.71x	0.56x	0.43x	0.21x	0.04x	19
2018	1.70x	1.56x	1.32x	1.16x	1.06x	0.58x	0.40x	0.29x	0.04x	0.02x	30
2019	1.86x	1.45x	1.34x	1.20x	1.04x	0.66x	0.54x	0.20x	0.07x	0.02x	24
2020	1.62x	1.45x	1.33x	1.11x	1.07x	0.84x	0.48x	0.20x	0.03x	0.00x	17
2021	1.54x	1.25x	1.14x	0.98x	0.92x	0.55x	0.25x	0.06x	0.01x	0.00x	16
2022	1.17x	0.96x	0.91x	0.84x	0.57x	0.11x	0.04x	0.01x	0.00x	0.00x	16

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Real assets

Quarterly return

Quarter end	1-quarter return
Q1 2001	5.02%
Q2 2001	1.16%
Q3 2001	-7.17%
Q4 2001	11.36%
Q1 2002	0.21%
Q2 2002	3.94%
Q3 2002	-4.07%
Q4 2002	0.22%
Q1 2003	-1.73%
Q2 2003	7.83%
Q3 2003	0.42%
Q4 2003	13.09%
Q1 2004	3.32%
Q2 2004	0.46%
Q3 2004	10.27%
Q4 2004	19.31%
Q1 2005	20.64%
Q2 2005	31.71%
Q3 2005	13.64%
Q4 2005	3.29%
Q1 2006	9.50%
Q2 2006	10.07%
Q3 2006	2.81%
Q4 2006	8.06%

Quarter end	1-quarter return
Q1 2007	4.43%
Q2 2007	4.96%
Q3 2007	3.54%
Q4 2007	9.75%
Q1 2008	2.27%
Q2 2008	3.56%
Q3 2008	3.00%
Q4 2008	-6.15%
Q1 2009	-4.28%
Q2 2009	-0.21%
Q3 2009	4.11%
Q4 2009	3.64%
Q1 2010	-0.38%
Q2 2010	0.63%
Q3 2010	3.91%
Q4 2010	8.46%
Q1 2011	4.39%
Q2 2011	4.76%
Q3 2011	-1.33%
Q4 2011	4.55%
Q1 2012	2.12%
Q2 2012	-1.70%
Q3 2012	1.36%
Q4 2012	3.92%

Quarter end	1-quarter return
Q1 2013	3.19%
Q2 2013	0.96%
Q3 2013	2.22%
Q4 2013	2.13%
Q1 2014	3.36%
Q2 2014	7.62%
Q3 2014	1.77%
Q4 2014	-5.71%
Q1 2015	-1.63%
Q2 2015	2.17%
Q3 2015	-3.32%
Q4 2015	-3.22%
Q1 2016	-1.97%
Q2 2016	5.70%
Q3 2016	4.21%
Q4 2016	4.96%
Q1 2017	3.10%
Q2 2017	2.30%
Q3 2017	1.50%
Q4 2017	0.85%
Q1 2018	2.18%
Q2 2018	2.36%
Q3 2018	6.11%
Q4 2018	-3.23%

Quarter end	1-quarter return
Q1 2019	0.43%
Q2 2019	-1.53%
Q3 2019	-1.21%
Q4 2019	-0.77%
Q1 2020	-12.41%
Q2 2020	1.79%
Q3 2020	2.75%
Q4 2020	3.78%
Q1 2021	5.94%
Q2 2021	7.22%
Q3 2021	3.63%
Q4 2021	6.50%
Q1 2022	8.10%
Q2 2022	3.73%
Q3 2022	2.95%
Q4 2022	2.27%
Q1 2023	1.20%
Q2 2023*	0.63%

*Preliminary figure

Source: PitchBook | Geography: North America

Private debt

Private debt

IRRs by vintage

Pooled IRRs

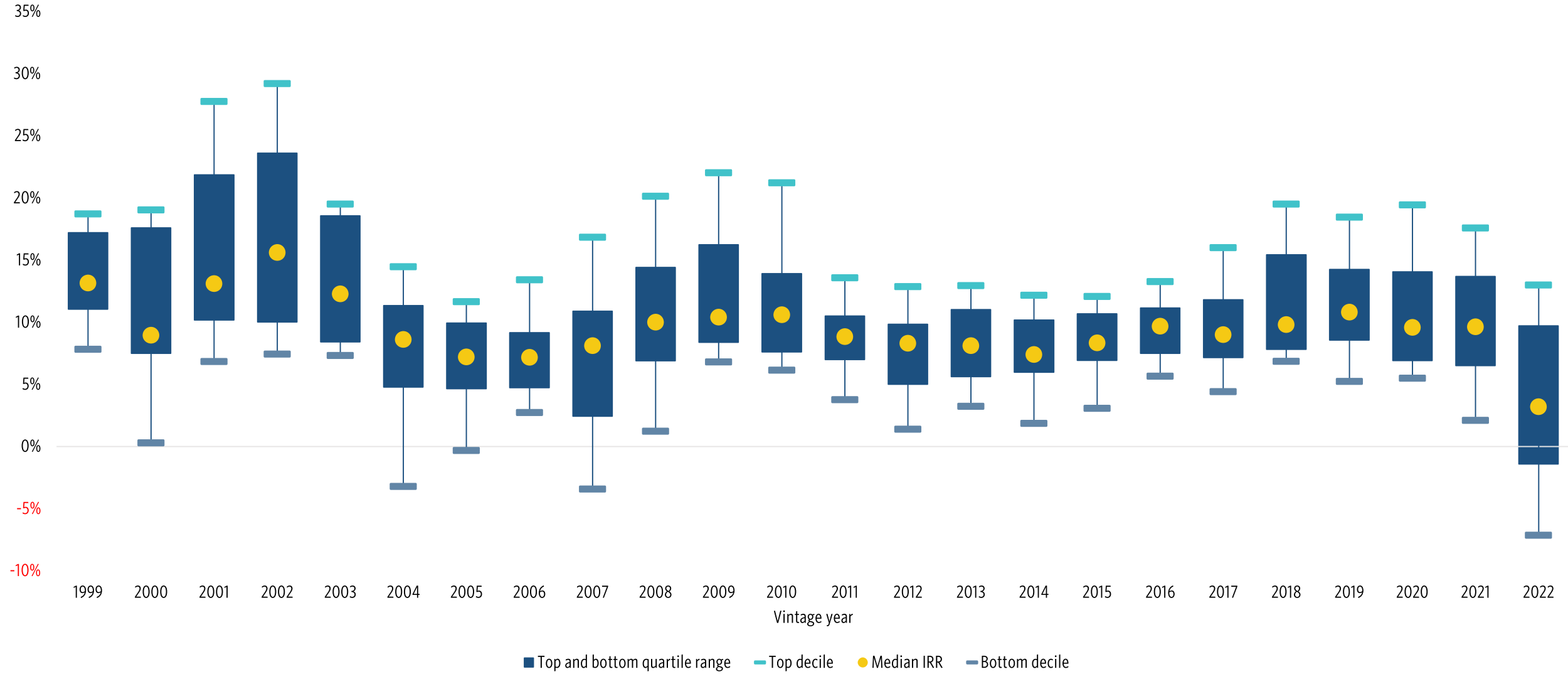
IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	11.74%	13.07%	4	18.70%	17.20%	13.14%	11.05%	7.81%	5.57%	12
2000	13.08%	6.48%	8	19.04%	17.59%	8.95%	7.50%	0.28%	10.73%	13
2001	25.45%	20.71%	6	27.76%	21.87%	13.10%	10.18%	6.83%	9.61%	15
2002	16.12%	18.41%	10	29.19%	23.60%	15.60%	10.01%	7.42%	18.10%	15
2003	13.34%	12.55%	8	19.50%	18.57%	12.28%	8.41%	7.31%	6.89%	14
2004	5.10%	6.24%	10	14.46%	11.35%	8.61%	4.77%	-3.22%	9.31%	19
2005	10.02%	10.31%	12	11.65%	9.93%	7.20%	4.65%	-0.33%	6.00%	20
2006	7.45%	6.69%	27	13.41%	9.16%	7.17%	4.73%	2.73%	5.81%	36
2007	6.73%	7.04%	22	16.82%	10.89%	8.10%	2.43%	-3.43%	8.10%	25
2008	13.77%	11.75%	28	20.12%	14.41%	10.00%	6.89%	1.22%	16.46%	46
2009	9.78%	11.45%	19	22.02%	16.24%	10.40%	8.38%	6.80%	10.21%	25
2010	10.68%	11.55%	27	21.21%	13.91%	10.60%	7.60%	6.14%	6.77%	37
2011	6.95%	6.39%	21	13.57%	10.50%	8.84%	6.99%	3.76%	6.34%	26
2012	6.66%	6.46%	26	12.86%	9.84%	8.30%	5.00%	1.38%	4.84%	37
2013	7.44%	7.73%	27	12.93%	11.01%	8.10%	5.62%	3.22%	3.99%	47
2014	7.88%	8.44%	39	12.16%	10.18%	7.39%	5.98%	1.85%	5.93%	43
2015	7.80%	8.00%	43	12.07%	10.67%	8.34%	6.93%	3.06%	4.62%	46
2016	8.45%	8.74%	44	13.26%	11.15%	9.68%	7.50%	5.64%	4.90%	49
2017	8.34%	8.73%	47	15.99%	11.81%	9.00%	7.15%	4.41%	5.88%	55
2018	10.53%	10.46%	49	19.50%	15.43%	9.80%	7.81%	6.85%	9.48%	51
2019	12.57%	10.68%	42	18.45%	14.25%	10.80%	8.56%	5.23%	5.70%	56
2020	8.65%	9.50%	47	19.44%	14.05%	9.57%	6.91%	5.49%	7.87%	58
2021	7.78%	9.38%	66	17.58%	13.69%	9.63%	6.51%	2.10%	10.31%	74
2022	7.44%	8.00%	45	12.98%	9.70%	3.19%	-1.41%	-7.15%	10.71%	39

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private debt

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private debt

PMEs by vintage

Vintage year	S&P 500			Morningstar US High Yield			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	11.74%	6.91%	1.52	11.74%			4
2000	13.08%	6.61%	1.27	13.08%	6.25%	1.09	8
2001	25.45%	7.40%	1.62	25.45%	6.49%	1.45	6
2002	16.12%	8.30%	1.32	16.12%	6.82%	1.23	10
2003	13.34%	10.14%	1.26	13.34%	7.01%	1.21	8
2004	5.10%	9.01%	0.99	5.10%	6.14%	0.92	10
2005	10.02%	9.12%	1.32	10.02%	5.99%	1.09	12
2006	7.45%	9.08%	1.04	7.45%	6.12%	0.93	27
2007	6.73%	8.84%	0.98	6.73%	5.83%	0.89	22
2008	13.77%	9.70%	1.06	13.77%	6.37%	1.00	28
2009	9.78%	14.36%	0.84	9.78%	8.49%	1.03	19
2010	10.68%	12.45%	0.90	10.68%	5.78%	1.13	27
2011	6.95%	11.98%	0.79	6.95%	5.01%	1.02	21
2012	6.66%	12.56%	0.80	6.66%	4.91%	1.05	26
2013	7.44%	12.34%	0.87	7.44%	4.14%	1.08	27
2014	7.88%	11.13%	0.85	7.88%	3.78%	1.12	39
2015	7.80%	10.69%	0.88	7.80%	3.97%	1.11	43
2016	8.45%	12.86%	0.89	8.45%	5.57%	1.14	44
2017	8.34%	11.44%	0.91	8.34%	3.28%	1.13	47
2018	10.53%	9.83%	0.99	10.53%	2.88%	1.21	49
2019	12.57%	12.00%	1.05	12.57%	2.90%	1.20	42
2020	8.65%	11.18%	1.07	8.65%	2.12%	1.13	47
2021	7.78%	3.30%	1.06	7.78%	-2.19%	1.08	66
2022	7.44%	-8.87%	1.06	7.44%	-5.40%	1.07	45

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private debt

Multiples by vintage

Vintage year	Pooled multiples			Equal-weighted pooled multiples			Number of funds
	TVPI	DPI	RVPI	TVPI	DPI	RVPI	
1999	1.43x	1.43x	0.00x	1.52x	1.52x	0.00x	4
2000	1.43x	1.43x	0.00x	1.27x	1.26x	0.01x	8
2001	2.07x	2.07x	0.00x	2.12x	2.12x	0.00x	6
2002	1.74x	1.71x	0.03x	1.70x	1.68x	0.02x	10
2003	1.72x	1.72x	0.00x	1.72x	1.71x	0.00x	8
2004	1.23x	1.22x	0.01x	1.31x	1.30x	0.01x	10
2005	1.57x	1.53x	0.03x	1.87x	1.79x	0.08x	12
2006	1.43x	1.40x	0.03x	1.38x	1.36x	0.03x	27
2007	1.26x	1.25x	0.01x	1.31x	1.30x	0.01x	22
2008	1.62x	1.62x	0.01x	1.49x	1.48x	0.01x	28
2009	1.44x	1.38x	0.05x	1.43x	1.39x	0.04x	19
2010	1.42x	1.39x	0.03x	1.47x	1.41x	0.06x	27
2011	1.28x	1.17x	0.11x	1.23x	1.09x	0.14x	21
2012	1.29x	1.14x	0.15x	1.30x	1.08x	0.22x	26
2013	1.27x	1.16x	0.11x	1.32x	1.09x	0.23x	27
2014	1.36x	0.96x	0.40x	1.34x	1.06x	0.28x	39
2015	1.27x	0.80x	0.47x	1.28x	0.86x	0.43x	43
2016	1.28x	0.71x	0.57x	1.28x	0.81x	0.46x	44
2017	1.24x	0.65x	0.59x	1.24x	0.72x	0.52x	47
2018	1.28x	0.49x	0.79x	1.24x	0.61x	0.63x	49
2019	1.23x	0.47x	0.77x	1.19x	0.44x	0.75x	42
2020	1.11x	0.23x	0.89x	1.13x	0.29x	0.84x	47
2021	1.08x	0.19x	0.89x	1.10x	0.28x	0.82x	66
2022	1.06x	0.16x	0.90x	1.06x	0.15x	0.91x	45

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private debt

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999		1.62x	1.46x	1.36x			1.62x	1.46x	1.36x		4
2000		1.51x	1.48x	1.19x			1.51x	1.44x	1.17x		8
2001		2.70x	1.86x	1.60x			2.70x	1.86x	1.60x		6
2002	2.38x	1.97x	1.61x	1.39x	1.32x	2.23x	1.97x	1.61x	1.39x	1.32x	10
2003		1.79x	1.64x	1.47x			1.79x	1.64x	1.47x		8
2004	1.92x	1.65x	1.37x	1.16x	0.62x	1.91x	1.65x	1.35x	1.16x	0.61x	10
2005	1.59x	1.54x	1.41x	1.22x	0.71x	1.58x	1.54x	1.40x	1.14x	0.69x	12
2006	1.83x	1.39x	1.31x	1.17x	1.03x	1.82x	1.37x	1.27x	1.17x	0.94x	27
2007	1.66x	1.55x	1.28x	1.20x	0.83x	1.66x	1.49x	1.28x	1.20x	0.83x	22
2008	1.87x	1.60x	1.37x	1.19x	1.04x	1.87x	1.59x	1.35x	1.18x	1.04x	28
2009	1.87x	1.61x	1.42x	1.22x	1.12x	1.85x	1.61x	1.39x	1.17x	1.04x	19
2010	1.83x	1.66x	1.38x	1.28x	1.17x	1.72x	1.60x	1.35x	1.21x	1.17x	27
2011	1.72x	1.51x	1.22x	1.02x	0.69x	1.58x	1.27x	1.13x	0.94x	0.60x	21
2012	1.70x	1.46x	1.28x	1.17x	0.96x	1.49x	1.28x	1.17x	1.00x	0.69x	26
2013	1.72x	1.41x	1.28x	1.18x	1.09x	1.36x	1.30x	1.20x	1.08x	0.65x	27
2014	1.56x	1.45x	1.30x	1.20x	1.03x	1.45x	1.14x	1.07x	0.89x	0.59x	39
2015	1.53x	1.40x	1.25x	1.16x	1.02x	1.13x	1.02x	0.89x	0.70x	0.54x	43
2016	1.46x	1.36x	1.25x	1.16x	1.12x	1.17x	1.05x	0.84x	0.61x	0.36x	44
2017	1.54x	1.38x	1.23x	1.13x	1.00x	1.07x	0.88x	0.66x	0.54x	0.35x	47
2018	1.55x	1.31x	1.21x	1.15x	1.03x	1.05x	0.78x	0.57x	0.30x	0.21x	49
2019	1.41x	1.26x	1.18x	1.11x	1.04x	0.68x	0.58x	0.35x	0.26x	0.09x	42
2020	1.41x	1.19x	1.12x	1.07x	0.97x	0.68x	0.37x	0.15x	0.06x	0.03x	47
2021	1.24x	1.14x	1.08x	1.04x	0.95x	0.59x	0.34x	0.11x	0.04x	0.00x	66
2022	1.24x	1.09x	1.03x	0.97x	0.90x	0.33x	0.17x	0.06x	0.00x	0.00x	45

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Private debt

Quarterly return

Quarter end	1-quarter return
Q1 2001	2.49%
Q2 2001	2.09%
Q3 2001	-0.28%
Q4 2001	1.07%
Q1 2002	3.13%
Q2 2002	-3.10%
Q3 2002	-0.56%
Q4 2002	1.40%
Q1 2003	3.14%
Q2 2003	6.09%
Q3 2003	-0.21%
Q4 2003	9.32%
Q1 2004	5.01%
Q2 2004	7.30%
Q3 2004	3.49%
Q4 2004	14.77%
Q1 2005	3.59%
Q2 2005	-1.10%
Q3 2005	6.17%
Q4 2005	3.95%
Q1 2006	4.21%
Q2 2006	4.10%
Q3 2006	2.73%
Q4 2006	8.01%

Quarter end	1-quarter return
Q1 2007	2.52%
Q2 2007	8.60%
Q3 2007	2.08%
Q4 2007	1.07%
Q1 2008	-2.81%
Q2 2008	0.36%
Q3 2008	-8.98%
Q4 2008	-14.56%
Q1 2009	-4.30%
Q2 2009	10.89%
Q3 2009	11.19%
Q4 2009	5.53%
Q1 2010	6.53%
Q2 2010	2.68%
Q3 2010	4.22%
Q4 2010	8.40%
Q1 2011	4.40%
Q2 2011	3.58%
Q3 2011	-5.27%
Q4 2011	0.83%
Q1 2012	6.15%
Q2 2012	-0.55%
Q3 2012	8.34%
Q4 2012	0.23%

Quarter end	1-quarter return
Q1 2013	4.80%
Q2 2013	2.00%
Q3 2013	3.05%
Q4 2013	1.12%
Q1 2014	5.28%
Q2 2014	2.89%
Q3 2014	2.28%
Q4 2014	2.66%
Q1 2015	1.91%
Q2 2015	2.88%
Q3 2015	-0.68%
Q4 2015	0.41%
Q1 2016	1.48%
Q2 2016	1.47%
Q3 2016	3.55%
Q4 2016	3.37%
Q1 2017	2.43%
Q2 2017	2.08%
Q3 2017	1.19%
Q4 2017	3.69%
Q1 2018	3.95%
Q2 2018	0.78%
Q3 2018	-0.38%
Q4 2018	0.74%

Quarter end	1-quarter return
Q1 2019	2.56%
Q2 2019	1.60%
Q3 2019	1.78%
Q4 2019	1.10%
Q1 2020	-8.92%
Q2 2020	3.76%
Q3 2020	3.12%
Q4 2020	3.94%
Q1 2021	6.51%
Q2 2021	8.14%
Q3 2021	2.25%
Q4 2021	2.73%
Q1 2022	2.84%
Q2 2022	-0.97%
Q3 2022	0.32%
Q4 2022	1.88%
Q1 2023	1.82%
Q2 2023*	-0.06%

*Preliminary figure

Source: PitchBook | Geography: North America

Funds of funds

Funds of funds

IRRs by vintage

Pooled IRRs

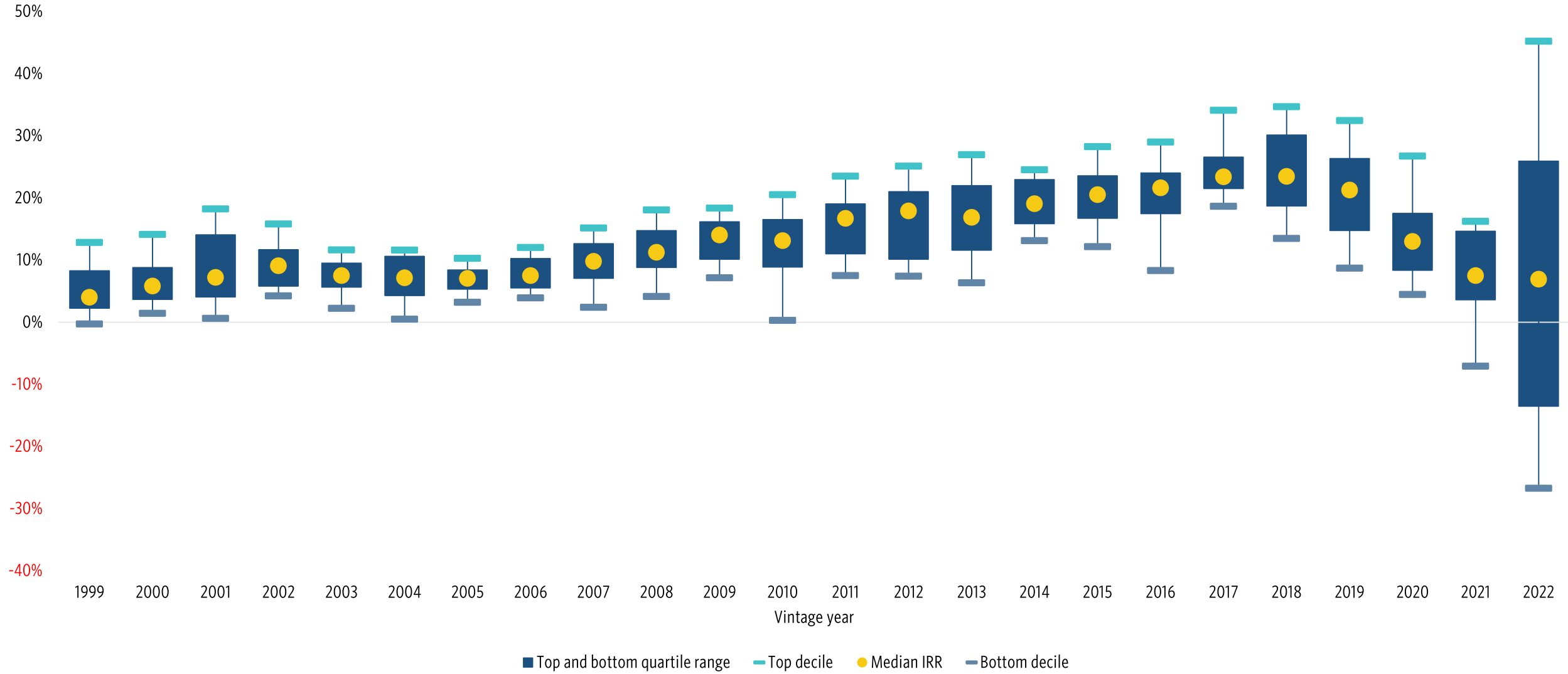
IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	5.64%	5.69%	8	12.83%	8.27%	4.00%	2.25%	-0.31%	12.68%	27
2000	7.83%	7.86%	8	14.12%	8.80%	5.80%	3.69%	1.42%	5.00%	29
2001	11.93%	6.78%	6	18.22%	14.06%	7.20%	4.06%	0.60%	11.33%	21
2002	8.07%	7.71%	3	15.80%	11.68%	9.08%	5.82%	4.22%	6.29%	19
2003	7.28%	6.46%	6	11.63%	9.48%	7.50%	5.66%	2.22%	5.00%	25
2004	8.53%	8.47%	6	11.60%	10.60%	7.14%	4.30%	0.48%	9.05%	33
2005	7.04%	7.43%	16	10.28%	8.40%	7.03%	5.33%	3.19%	11.72%	54
2006	8.43%	8.21%	30	12.00%	10.23%	7.49%	5.51%	3.92%	3.77%	60
2007	11.85%	10.71%	30	15.14%	12.62%	9.80%	7.07%	2.38%	6.27%	67
2008	9.37%	11.73%	34	18.06%	14.73%	11.25%	8.82%	4.12%	5.66%	63
2009	13.12%	12.39%	23	18.35%	16.14%	14.01%	10.15%	7.15%	5.22%	36
2010	13.71%	13.27%	27	20.52%	16.50%	13.10%	8.87%	0.28%	8.83%	39
2011	16.15%	17.37%	35	23.50%	19.03%	16.70%	11.00%	7.48%	10.03%	49
2012	16.97%	16.99%	34	25.09%	21.00%	17.91%	10.16%	7.40%	6.89%	41
2013	15.72%	16.72%	37	26.95%	21.98%	16.85%	11.60%	6.34%	7.63%	37
2014	15.67%	18.57%	29	24.52%	22.93%	19.06%	15.87%	13.12%	6.83%	43
2015	22.16%	20.15%	31	28.26%	23.55%	20.51%	16.72%	12.16%	6.37%	36
2016	20.59%	21.09%	25	28.98%	24.01%	21.62%	17.47%	8.30%	8.12%	27
2017	25.95%	25.11%	21	34.08%	26.57%	23.41%	21.53%	18.64%	6.15%	24
2018	23.57%	21.61%	28	34.66%	30.11%	23.47%	18.71%	13.45%	8.73%	28
2019	23.98%	21.37%	21	32.44%	26.32%	21.27%	14.76%	8.68%	10.42%	27
2020	9.81%	9.42%	19	26.72%	17.53%	12.98%	8.36%	4.44%	17.94%	25
2021	5.08%	3.70%	19	16.22%	14.64%	7.49%	3.62%	-7.10%	12.54%	27
2022	19.80%	8.66%	16	45.20%	25.90%	6.90%	-13.50%	-26.73%	36.83%	13

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Funds of funds

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Funds of funds

PMEs by vintage

Vintage year	S&P 500			Morningstar US			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	5.64%	6.91%	1.06	5.64%	7.19%	1.02	8
2000	7.83%	6.61%	1.07	7.83%	6.84%	1.03	8
2001	11.93%	7.40%	1.15	11.93%	7.61%	1.12	6
2002	8.07%	8.30%	1.06	8.07%	8.52%	1.03	3
2003	7.28%	10.14%	1.01	7.28%	10.37%	0.99	6
2004	8.53%	9.01%	1.04	8.53%	9.15%	1.02	6
2005	7.04%	9.12%	0.94	7.04%	9.21%	0.92	16
2006	8.43%	9.08%	0.89	8.43%	9.05%	0.89	30
2007	11.85%	8.84%	0.98	11.85%	8.80%	0.97	30
2008	9.37%	9.70%	0.80	9.37%	9.68%	0.80	34
2009	13.12%	14.36%	0.97	13.12%	14.30%	0.98	23
2010	13.71%	12.45%	1.02	13.71%	12.25%	1.03	27
2011	16.15%	11.98%	1.14	16.15%	11.65%	1.15	35
2012	16.97%	12.56%	1.25	16.97%	12.22%	1.27	34
2013	15.72%	12.34%	1.17	15.72%	11.96%	1.19	37
2014	15.67%	11.13%	1.15	15.67%	10.64%	1.17	29
2015	22.16%	10.69%	1.44	22.16%	10.23%	1.47	31
2016	20.59%	12.86%	1.33	20.59%	12.57%	1.35	25
2017	25.95%	11.44%	1.48	25.95%	10.95%	1.50	21
2018	23.57%	9.83%	1.30	23.57%	9.32%	1.32	28
2019	23.98%	12.00%	1.30	23.98%	11.38%	1.32	21
2020	9.81%	11.18%	1.12	9.81%	10.70%	1.14	19
2021	5.08%	3.30%	1.01	5.08%	1.22%	1.02	19
2022	19.80%	-8.87%	1.10	19.80%	-9.48%	1.11	16

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Funds of funds

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1999	1.34x	1.32x	0.02x	1.38x	1.34x	0.03x	8
2000	1.46x	1.45x	0.01x	1.47x	1.46x	0.01x	8
2001	1.61x	1.61x	0.00x	1.39x	1.39x	0.00x	6
2002	1.46x	1.45x	0.00x	1.45x	1.45x	0.00x	3
2003	1.56x	1.55x	0.01x	1.47x	1.46x	0.01x	6
2004	1.67x	1.56x	0.11x	1.72x	1.55x	0.17x	6
2005	1.48x	1.44x	0.04x	1.53x	1.48x	0.05x	16
2006	1.70x	1.57x	0.13x	1.69x	1.58x	0.11x	30
2007	2.03x	1.71x	0.32x	1.83x	1.62x	0.21x	30
2008	1.74x	1.40x	0.34x	1.99x	1.58x	0.41x	34
2009	2.03x	1.54x	0.49x	1.93x	1.54x	0.39x	23
2010	2.12x	1.51x	0.61x	2.11x	1.43x	0.68x	27
2011	2.29x	1.54x	0.75x	2.50x	1.68x	0.82x	35
2012	2.44x	1.24x	1.20x	2.37x	1.29x	1.08x	34
2013	2.13x	1.03x	1.10x	2.22x	1.14x	1.07x	37
2014	2.01x	0.89x	1.11x	2.33x	1.00x	1.32x	29
2015	2.27x	0.67x	1.61x	2.22x	0.71x	1.51x	31
2016	1.95x	0.53x	1.42x	1.95x	0.50x	1.45x	25
2017	1.93x	0.33x	1.60x	1.95x	0.36x	1.59x	21
2018	1.55x	0.27x	1.28x	1.60x	0.28x	1.32x	28
2019	1.48x	0.29x	1.19x	1.44x	0.19x	1.25x	21
2020	1.14x	0.07x	1.07x	1.14x	0.11x	1.03x	19
2021	1.07x	0.04x	1.03x	1.05x	0.02x	1.02x	19
2022	1.09x	0.03x	1.06x	1.06x	0.02x	1.04x	16

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Funds of funds

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999		1.57x	1.28x	1.16x			1.56x	1.28x	1.16x		8
2000		1.65x	1.53x	1.25x			1.64x	1.53x	1.24x		8
2001		1.64x	1.38x	1.34x			1.64x	1.38x	1.34x		6
2002			1.41x					1.41x			3
2003		1.61x	1.55x	1.43x			1.59x	1.53x	1.43x		6
2004		1.79x	1.62x	1.56x			1.60x	1.56x	1.42x		6
2005	1.88x	1.70x	1.53x	1.34x	1.32x	1.71x	1.61x	1.49x	1.34x	1.32x	16
2006	2.01x	1.88x	1.67x	1.43x	1.29x	1.89x	1.74x	1.58x	1.38x	1.25x	30
2007	2.44x	2.00x	1.71x	1.49x	1.32x	2.06x	1.87x	1.55x	1.40x	1.14x	30
2008	3.12x	2.44x	1.90x	1.51x	1.09x	2.16x	1.88x	1.60x	1.24x	0.86x	34
2009	2.41x	2.29x	1.94x	1.72x	1.37x	2.11x	1.82x	1.57x	1.27x	1.00x	23
2010	3.28x	2.27x	1.91x	1.60x	1.37x	2.08x	1.55x	1.45x	1.14x	0.88x	27
2011	4.27x	2.91x	2.22x	1.67x	1.35x	2.72x	1.96x	1.45x	1.20x	0.86x	35
2012	3.40x	3.08x	2.22x	1.60x	1.39x	2.00x	1.67x	1.16x	0.94x	0.80x	34
2013	3.39x	2.55x	2.13x	1.84x	1.28x	1.76x	1.46x	1.08x	0.91x	0.47x	37
2014	3.45x	3.03x	2.08x	1.84x	1.68x	1.40x	1.17x	0.97x	0.81x	0.66x	29
2015	3.03x	2.62x	2.09x	1.84x	1.55x	1.17x	0.81x	0.69x	0.45x	0.31x	31
2016	2.46x	2.19x	1.95x	1.77x	1.25x	0.81x	0.73x	0.47x	0.31x	0.20x	25
2017	2.31x	2.16x	1.93x	1.65x	1.47x	0.71x	0.50x	0.28x	0.13x	0.07x	21
2018	2.04x	1.77x	1.55x	1.44x	1.17x	0.42x	0.34x	0.24x	0.11x	0.04x	28
2019	1.68x	1.58x	1.45x	1.33x	1.16x	0.31x	0.22x	0.12x	0.02x	0.00x	21
2020	1.45x	1.23x	1.19x	1.09x	1.01x	0.21x	0.15x	0.08x	0.01x	0.00x	19
2021	1.22x	1.18x	1.10x	1.01x	0.90x	0.06x	0.04x	0.02x	0.00x	0.00x	19
2022	1.14x	1.12x	1.04x	0.83x	0.66x	0.03x	0.00x	0.00x	0.00x	0.00x	16

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Funds of funds

Quarterly return

Quarter end	1-quarter return
Q1 2001	-8.44%
Q2 2001	-7.44%
Q3 2001	-9.96%
Q4 2001	-4.52%
Q1 2002	-10.63%
Q2 2002	-6.11%
Q3 2002	-7.38%
Q4 2002	-3.72%
Q1 2003	-8.33%
Q2 2003	2.63%
Q3 2003	0.70%
Q4 2003	-1.20%
Q1 2004	5.08%
Q2 2004	0.96%
Q3 2004	4.27%
Q4 2004	7.02%
Q1 2005	2.26%
Q2 2005	6.17%
Q3 2005	5.25%
Q4 2005	7.31%
Q1 2006	4.49%
Q2 2006	6.44%
Q3 2006	3.42%
Q4 2006	8.14%

Quarter end	1-quarter return
Q1 2007	1.41%
Q2 2007	11.81%
Q3 2007	3.75%
Q4 2007	3.52%
Q1 2008	9.11%
Q2 2008	-2.04%
Q3 2008	-6.16%
Q4 2008	-10.44%
Q1 2009	-2.62%
Q2 2009	-2.51%
Q3 2009	5.61%
Q4 2009	2.77%
Q1 2010	5.33%
Q2 2010	-0.39%
Q3 2010	3.92%
Q4 2010	2.79%
Q1 2011	3.98%
Q2 2011	5.65%
Q3 2011	-1.53%
Q4 2011	0.79%
Q1 2012	4.25%
Q2 2012	1.61%
Q3 2012	-0.32%
Q4 2012	3.35%

Quarter end	1-quarter return
Q1 2013	2.09%
Q2 2013	3.16%
Q3 2013	3.13%
Q4 2013	5.00%
Q1 2014	3.88%
Q2 2014	5.24%
Q3 2014	2.59%
Q4 2014	3.74%
Q1 2015	3.04%
Q2 2015	4.33%
Q3 2015	2.33%
Q4 2015	0.88%
Q1 2016	1.26%
Q2 2016	1.09%
Q3 2016	3.25%
Q4 2016	1.25%
Q1 2017	3.64%
Q2 2017	2.98%
Q3 2017	3.09%
Q4 2017	1.44%
Q1 2018	4.77%
Q2 2018	5.75%
Q3 2018	4.11%
Q4 2018	1.20%

Quarter end	1-quarter return
Q1 2019	2.69%
Q2 2019	4.18%
Q3 2019	2.03%
Q4 2019	2.38%
Q1 2020	-0.80%
Q2 2020	3.75%
Q3 2020	8.10%
Q4 2020	12.73%
Q1 2021	13.45%
Q2 2021	16.61%
Q3 2021	8.45%
Q4 2021	5.11%
Q1 2022	0.36%
Q2 2022	-1.92%
Q3 2022	-0.96%
Q4 2022	-5.39%
Q1 2023	0.64%
Q2 2023*	11.01%

*Preliminary figure

Source: PitchBook | Geography: North America

Secondaries

Secondaries

IRRs by vintage

Pooled IRRs

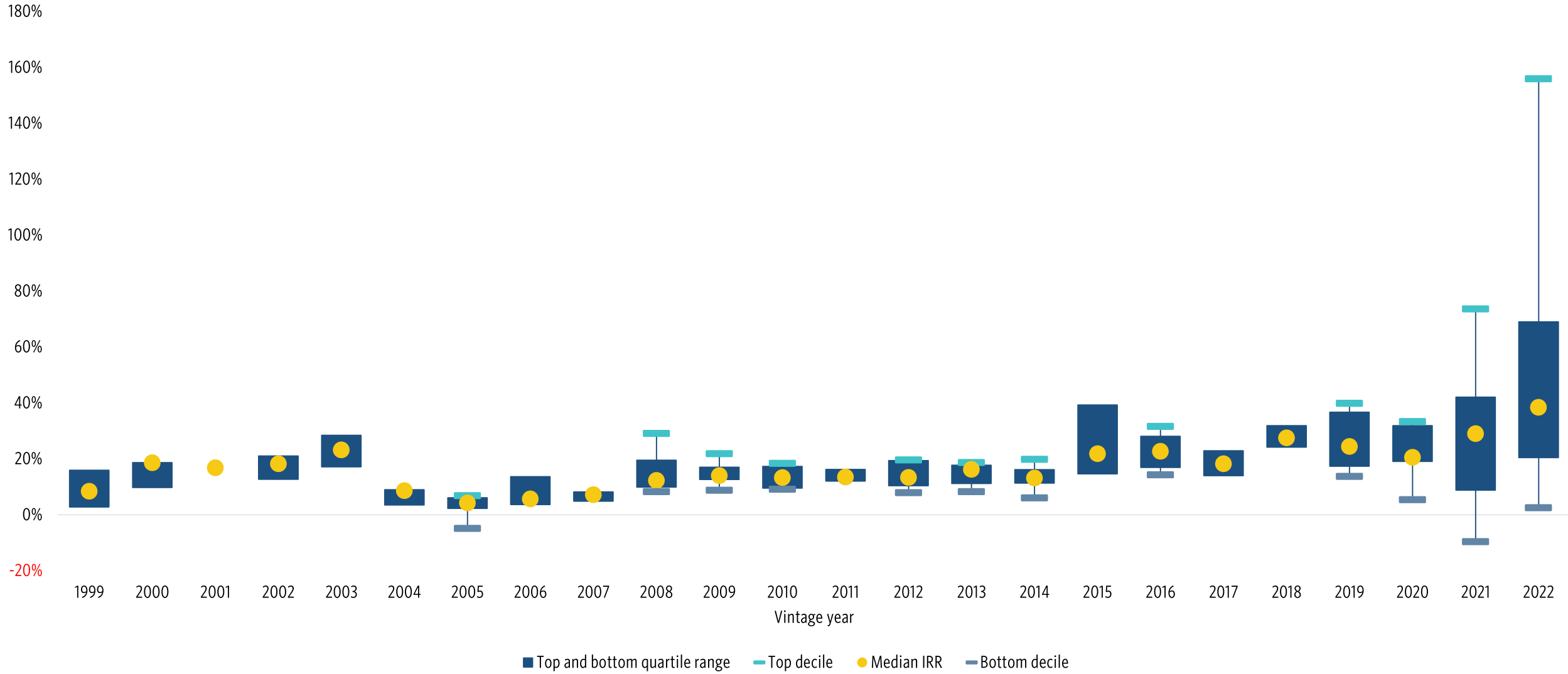
IRR quantiles

Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1999	3.07%	1.70%	2		15.93%	8.38%	2.81%		11.42%	8
2000	11.98%	11.82%	2		18.70%	18.60%	9.80%		7.02%	5
2001	14.09%	16.01%	2			16.80%			3.67%	3
2002	18.88%	19.87%	3		21.06%	18.22%	12.74%		5.68%	7
2003	37.92%	37.92%	1		28.46%	23.19%	17.19%		10.19%	7
2004	10.05%	8.55%	6		9.00%	8.60%	3.53%		9.42%	9
2005	6.22%	4.75%	8	6.85%	6.10%	4.21%	2.28%	-4.91%	5.09%	12
2006	6.22%	8.61%	5		13.68%	5.71%	3.64%		6.47%	7
2007	5.50%	9.14%	8		8.16%	7.20%	4.89%		10.15%	9
2008	13.27%	14.09%	10	29.11%	19.50%	12.31%	9.90%	8.26%	12.41%	10
2009	12.63%	12.43%	9	21.83%	17.02%	14.00%	12.63%	8.74%	7.72%	10
2010	12.82%	14.64%	4	18.41%	17.30%	13.30%	9.57%	9.14%	3.96%	10
2011	14.98%	13.79%	7		16.21%	13.52%	12.08%		3.51%	9
2012	10.57%	10.46%	8	19.58%	19.40%	13.34%	10.45%	7.91%	9.03%	12
2013	11.57%	13.21%	7	18.68%	17.75%	16.20%	11.18%	8.29%	9.49%	11
2014	14.72%	12.02%	8	19.84%	16.19%	13.14%	11.33%	6.05%	5.95%	10
2015	20.59%	28.14%	4		39.32%	21.83%	14.68%		18.43%	6
2016	17.83%	20.50%	16	31.60%	28.05%	22.71%	16.97%	14.26%	8.06%	16
2017	17.55%	15.17%	6		22.88%	18.24%	14.00%		6.98%	9
2018	25.01%	16.69%	7		31.89%	27.50%	24.20%		10.01%	7
2019	31.61%	28.12%	11	39.88%	36.71%	24.42%	17.37%	13.74%	12.91%	12
2020	26.75%	22.39%	11	33.30%	31.90%	20.57%	19.12%	5.42%	11.60%	11
2021	37.03%	36.35%	14	73.64%	42.09%	29.00%	8.87%	-9.64%	37.27%	23
2022	13.60%	22.82%	11	155.92%	69.00%	38.43%	20.50%	2.48%	65.43%	13

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Secondaries

IRRs by vintage



Source: PitchBook | Geography: North America | Data as of March 31, 2023

Secondaries

PMEs by vintage

Vintage year	S&P 500			Morningstar US			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1999	3.07%	6.91%	1.09	3.07%	7.19%	1.06	2
2000	11.98%	6.61%	1.27	11.98%	6.84%	1.24	2
2001	14.09%	7.40%	1.19	14.09%	7.61%	1.16	2
2002	18.88%	8.30%	1.30	18.88%	8.52%	1.28	3
2003	37.92%	10.14%	1.56	37.92%	10.37%	1.53	1
2004	10.05%	9.01%	1.14	10.05%	9.15%	1.12	6
2005	6.22%	9.12%	0.94	6.22%	9.21%	0.93	8
2006	6.22%	9.08%	0.93	6.22%	9.05%	0.91	5
2007	5.50%	8.84%	0.82	5.50%	8.80%	0.82	8
2008	13.27%	9.70%	1.00	13.27%	9.68%	0.99	10
2009	12.63%	14.36%	0.94	12.63%	14.30%	0.94	9
2010	12.82%	12.45%	0.96	12.82%	12.25%	0.96	4
2011	14.98%	11.98%	1.02	14.98%	11.65%	1.02	7
2012	10.57%	12.56%	0.91	10.57%	12.22%	0.91	8
2013	11.57%	12.34%	0.99	11.57%	11.96%	1.00	7
2014	14.72%	11.13%	1.06	14.72%	10.64%	1.07	8
2015	20.59%	10.69%	1.21	20.59%	10.23%	1.22	4
2016	17.83%	12.86%	1.15	17.83%	12.57%	1.16	16
2017	17.55%	11.44%	1.15	17.55%	10.95%	1.16	6
2018	25.01%	9.83%	1.32	25.01%	9.32%	1.34	7
2019	31.61%	12.00%	1.37	31.61%	11.38%	1.39	11
2020	26.75%	11.18%	1.29	26.75%	10.70%	1.31	11
2021	37.03%	3.30%	1.44	37.03%	1.22%	1.46	14
2022	13.60%	-8.87%	1.15	13.60%	-9.48%	1.16	11

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Secondaries

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1999	1.11x	1.11x	0.00x	1.06x	1.06x	0.00x	2
2000	1.52x	1.52x	0.00x	1.52x	1.52x	0.00x	2
2001	1.55x	1.54x	0.01x	1.62x	1.61x	0.00x	2
2002	1.62x	1.62x	0.00x	1.58x	1.58x	0.00x	3
2003	1.79x	1.79x	0.00x	1.79x	1.79x	0.00x	1
2004	1.47x	1.41x	0.06x	1.38x	1.32x	0.06x	6
2005	1.35x	1.34x	0.01x	1.24x	1.23x	0.01x	8
2006	1.43x	1.37x	0.06x	1.70x	1.43x	0.27x	5
2007	1.22x	1.19x	0.03x	1.37x	1.35x	0.02x	8
2008	1.74x	1.67x	0.07x	1.81x	1.59x	0.23x	10
2009	1.60x	1.50x	0.11x	1.60x	1.44x	0.16x	9
2010	1.54x	1.45x	0.09x	1.57x	1.47x	0.10x	4
2011	1.61x	1.49x	0.12x	1.52x	1.40x	0.12x	7
2012	1.42x	1.23x	0.19x	1.42x	1.21x	0.21x	8
2013	1.53x	1.20x	0.33x	1.60x	1.20x	0.40x	7
2014	1.54x	1.05x	0.49x	1.40x	1.08x	0.33x	8
2015	1.71x	0.99x	0.72x	1.53x	1.17x	0.36x	4
2016	1.56x	0.78x	0.78x	1.71x	0.84x	0.86x	16
2017	1.53x	0.61x	0.92x	1.50x	0.65x	0.85x	6
2018	1.49x	0.33x	1.16x	1.39x	0.45x	0.94x	7
2019	1.55x	0.68x	0.86x	1.48x	0.65x	0.83x	11
2020	1.38x	0.39x	1.00x	1.36x	0.39x	0.97x	11
2021	1.42x	0.19x	1.23x	1.35x	0.12x	1.23x	14
2022	1.12x	0.04x	1.08x	1.15x	0.04x	1.11x	11

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Secondaries

Multiples by vintage

Vintage year	TVPI					DPI					Number of funds
	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	
1999			1.06x					1.06x			2
2000			1.51x					1.51x			2
2001			1.62x					1.62x			2
2002			1.55x					1.55x			3
2003			1.79x					1.79x			1
2004		1.61x	1.46x	1.31x			1.59x	1.41x	1.08x		6
2005		1.34x	1.29x	1.24x			1.34x	1.27x	1.23x		8
2006		1.96x	1.46x	1.32x			1.39x	1.32x	1.30x		5
2007		1.39x	1.37x	1.27x			1.38x	1.37x	1.23x		8
2008	2.37x	1.62x	1.50x	1.41x	1.34x	2.12x	1.53x	1.47x	1.39x	1.32x	10
2009		1.75x	1.67x	1.36x			1.63x	1.59x	1.35x		9
2010		1.69x	1.63x	1.52x			1.58x	1.52x	1.41x		4
2011		1.66x	1.63x	1.38x			1.54x	1.49x	1.24x		7
2012		1.61x	1.38x	1.36x			1.41x	1.23x	1.05x		8
2013		1.78x	1.61x	1.48x			1.23x	1.19x	1.13x		7
2014		1.61x	1.52x	1.28x			1.18x	1.06x	1.01x		8
2015		1.69x	1.55x	1.40x			1.36x	1.18x	0.97x		4
2016	2.08x	1.82x	1.63x	1.43x	1.40x	1.32x	1.01x	0.78x	0.61x	0.55x	16
2017		1.60x	1.50x	1.45x			0.88x	0.65x	0.39x		6
2018		1.75x	1.49x	1.34x			0.59x	0.30x	0.23x		7
2019	1.71x	1.62x	1.47x	1.32x	1.25x	0.84x	0.73x	0.65x	0.40x	0.33x	11
2020	1.57x	1.53x	1.33x	1.21x	1.14x	1.03x	0.48x	0.20x	0.10x	0.09x	11
2021	1.63x	1.48x	1.27x	1.05x	0.92x	0.31x	0.25x	0.05x	0.00x	0.00x	14
2022	1.39x	1.20x	1.00x	0.95x	0.76x	0.21x	0.12x	0.01x	0.00x	0.00x	11

Source: PitchBook | Geography: North America | Data as of March 31, 2023

Secondaries

Quarterly return

Quarter end	1-quarter return
Q1 2001	-4.33%
Q2 2001	-3.29%
Q3 2001	1.55%
Q4 2001	-2.93%
Q1 2002	2.25%
Q2 2002	1.71%
Q3 2002	-5.40%
Q4 2002	-5.09%
Q1 2003	-4.84%
Q2 2003	-1.54%
Q3 2003	2.13%
Q4 2003	1.56%
Q1 2004	9.72%
Q2 2004	5.53%
Q3 2004	4.18%
Q4 2004	5.27%
Q1 2005	7.34%
Q2 2005	4.63%
Q3 2005	5.95%
Q4 2005	2.17%
Q1 2006	7.85%
Q2 2006	5.16%
Q3 2006	5.28%
Q4 2006	5.62%

Quarter end	1-quarter return
Q1 2007	2.55%
Q2 2007	12.80%
Q3 2007	7.06%
Q4 2007	2.56%
Q1 2008	1.05%
Q2 2008	-3.68%
Q3 2008	5.27%
Q4 2008	-7.11%
Q1 2009	-5.30%
Q2 2009	-3.19%
Q3 2009	-0.46%
Q4 2009	1.11%
Q1 2010	1.64%
Q2 2010	8.63%
Q3 2010	6.29%
Q4 2010	4.84%
Q1 2011	7.46%
Q2 2011	4.58%
Q3 2011	4.07%
Q4 2011	0.55%
Q1 2012	1.64%
Q2 2012	4.14%
Q3 2012	3.04%
Q4 2012	2.65%

Quarter end	1-quarter return
Q1 2013	2.83%
Q2 2013	3.52%
Q3 2013	3.85%
Q4 2013	3.35%
Q1 2014	3.73%
Q2 2014	2.79%
Q3 2014	3.18%
Q4 2014	3.08%
Q1 2015	1.37%
Q2 2015	6.09%
Q3 2015	4.21%
Q4 2015	-0.14%
Q1 2016	0.25%
Q2 2016	1.00%
Q3 2016	1.47%
Q4 2016	3.14%
Q1 2017	2.94%
Q2 2017	3.58%
Q3 2017	5.10%
Q4 2017	3.74%
Q1 2018	3.09%
Q2 2018	7.76%
Q3 2018	1.44%
Q4 2018	1.67%

Quarter end	1-quarter return
Q1 2019	4.35%
Q2 2019	1.89%
Q3 2019	1.39%
Q4 2019	4.72%
Q1 2020	-4.57%
Q2 2020	1.12%
Q3 2020	3.55%
Q4 2020	12.84%
Q1 2021	8.00%
Q2 2021	14.86%
Q3 2021	7.72%
Q4 2021	9.49%
Q1 2022	1.06%
Q2 2022	0.81%
Q3 2022	-0.92%
Q4 2022	0.17%
Q1 2023	1.80%
Q2 2023*	0.03%

*Preliminary figure

Source: PitchBook | Geography: North America

Additional research

Market updates



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