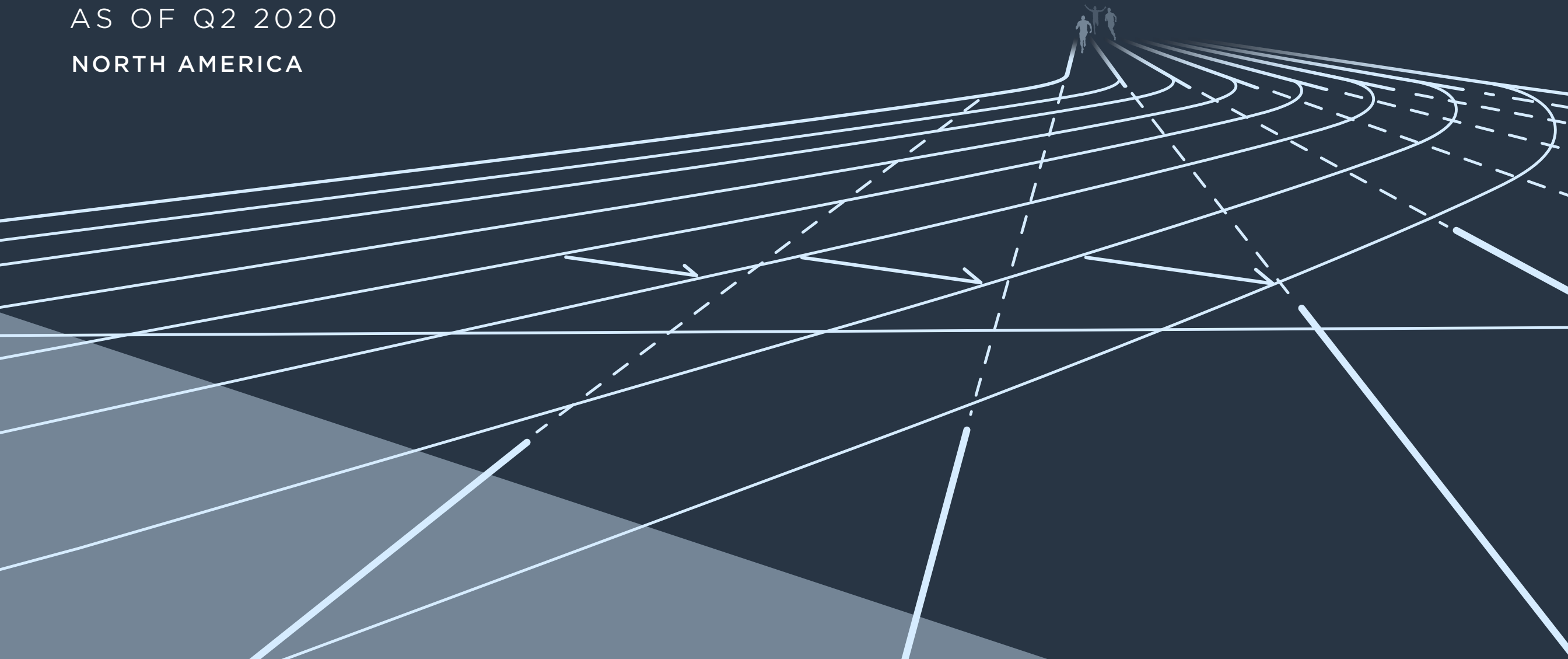




PitchBook Benchmarks

AS OF Q2 2020

NORTH AMERICA





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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 are expanding PitchBook Benchmarks to include additional slices based on fund strategy and geography, enabling performance comparisons with more representative peer groups. This quarter we are introducing dedicated PitchBook Benchmarks for North America, Europe, Private Equity, and Venture Capital, with more to be released in the future. To easily access the supporting data in this PDF, be sure to download the four accompanying Excel data packs. Links for those packs and the other Benchmark reports are below:

Excel data packs:

- [Global](#)
- [Europe](#)
- [North America](#)
- [Private equity](#)
- [Venture capital](#)

PitchBook Benchmark PDFs:

- [Global](#)
- [Europe](#)
- [North America](#)
- [Private equity](#)
- [Venture capital](#)

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

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.

Commitment pacing and cash flow models, as well as custom benchmarking analysis, can be made available upon request for PitchBook clients.



Methodology

Fund classifications

Private equity

Buyout
Growth/expansion
Mezzanine
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
Energy
Timber
Metals/mining
Agriculture

Private debt

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

Funds of funds

Secondaries

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.

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.

Quarterly return: The percentage change in aggregate NAV is calculated 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.

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 IRR: Calculated as the aggregate percentage change in aggregate NAV for each group of funds in a sample, considering contributions and distributions during the quarter. Interpolated and extended data are not used in this calculation. Preliminary data is only available for global benchmarks and will be published when 60% or more of NAV is captured for all private capital funds. Note that individual fund strategies may vary from that 60% threshold.

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

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:

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

When using a KS-PME, a value greater than 1.0 implies outperformance of the fund over the public index (net of all fees).

$$PME_{KS-TVPI} = \frac{NAV_T + \sum_{t=0}^T \left(\frac{\text{distribution}_t}{I_T} \right)}{\sum_{t=0}^T \left(\frac{\text{contribution}_t}{I_T} \right)}$$

PitchBook introduces new commitment pacing and cash flow models

Greater transparency.
More flexibility.
Differentiated data.

Figure 9. Buyout fund at 2.5 years

Figure 9.1 **Figure 9.2**

Figure 10. Buyout fund at four years

Figure 10.1 **Figure 10.2**

Figure 11. Buyout fund at six years

Figure 11.1 **Figure 11.2**

Source: PitchBook. Data as of December 31, 2019.

As we have shown throughout this series, fund cash flows are correlated to certain fund characteristics (such as dry powder, performance marks, fund age, etc.) and broader economic factors. Leveraging this research and the PitchBook database, we have constructed a model that both generates theoretical cash flows based purely on hypothetical inputs and can be used to model future cash flows for existing funds from any stage of their lifecycle. Additionally, since GPs provide LPs with regular updates about expectations for specific funds, users can feed these predictions from active funds into the model to generate a customized cash flow projection, with Figure 8 showing the inputs available for customization. To illustrate the impact of these variables on the modeled cash flows, we have modeled a buyout fund from different points of its lifecycle to depict how users can set the model to any point throughout the fund life. Our model produces a baseline scenario for future cash flows, as well as upper and lower bounds based on a 90% confidence threshold.

Figure 8. Qualitative inputs for customization in cash flow model

Inputs	Variable changed	
	Contribution pace	Distribution timing
Anticipated reserve capital	X	
Near-term exits		X
Expected fund life		X

PitchBook Benchmarks 2019 PG 8

PitchBook has leveraged our massive private fund database to develop several models to help limited partners (LPs) better navigate private markets. These new models offer foresight into planning for commitment pacing and preparing for capital calls, allowing the user to customize for their specific allocations and assumptions.

All the models introduced in this series are available to PitchBook clients. We welcome any questions, comments, or inquiries at benchmarks@pitchbook.com.

Download the full Basics of Cash Flow Management series.



Private capital



Private capital

Horizon IRRs

Strategy	Q2 2020	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	6.34%	4.80%	9.42%	9.65%	12.63%	10.59%	9.57%
Private equity	10.18%	9.49%	12.12%	12.41%	14.73%	12.64%	11.35%
Venture capital	8.31%	13.97%	16.32%	10.37%	13.38%	10.13%	6.10%
Real estate	-1.86%	2.82%	6.95%	9.00%	12.99%	7.36%	7.52%
Real assets	2.44%	-10.48%	-0.54%	1.97%	4.72%	4.50%	5.02%
Private debt	1.36%	-2.57%	4.56%	5.10%	9.22%	8.59%	9.19%
Funds of funds	4.33%	6.65%	12.23%	10.41%	12.04%	10.55%	8.92%
Secondaries	0.54%	3.77%	11.76%	10.42%	12.24%	10.85%	10.82%
S&P 500	20.54%	7.51%	10.79%	10.79%	13.87%	8.78%	5.96%
Russell 3000	22.03%	6.53%	10.10%	10.11%	13.61%	8.73%	6.18%
Russell 2000 Growth	30.58%	3.48%	7.89%	7.09%	12.81%	8.82%	5.40%
Morningstar US Real Estate	14.60%	-7.39%	2.45%	5.37%	9.46%	5.92%	9.35%
Morningstar US Real Asset	6.52%	-2.59%	1.99%	1.41%	3.20%	4.37%	6.70%
Bloomberg Barclays US Corporate High Yield	10.18%	0.03%	3.34%	4.80%	6.67%	6.86%	7.00%

Source: PitchBook. Geography: North America . Data as of June 30, 2020

Note: all public index values are total return CAGRs



Private capital

Equal-weighted horizon IRRs

Strategy	Q2 2020	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	3.94%	6.39%	11.16%	9.99%	12.13%	10.17%	8.08%
Private equity	6.85%	7.23%	12.68%	12.73%	13.66%	12.60%	10.31%
Venture capital	5.86%	12.22%	15.68%	9.48%	12.67%	9.38%	5.03%
Real estate	-3.09%	5.85%	8.30%	9.63%	11.86%	7.04%	7.21%
Real assets	0.44%	-3.61%	1.90%	3.36%	5.52%	6.29%	7.20%
Private debt	1.81%	-1.92%	5.03%	5.63%	9.17%	8.44%	9.47%
Funds of funds	4.69%	7.97%	13.49%	11.94%	12.90%	11.02%	9.93%
Secondaries	1.22%	5.50%	10.98%	8.82%	11.93%	10.86%	10.20%
S&P 500	20.54%	7.51%	10.79%	10.79%	13.87%	8.78%	5.96%
Russell 3000	22.03%	6.53%	10.10%	10.11%	13.61%	8.73%	6.18%
Russell 2000 Growth	30.58%	3.48%	7.89%	7.09%	12.81%	8.82%	5.40%
Morningstar US Real Estate	14.60%	-7.39%	2.45%	5.37%	9.46%	5.92%	9.35%
Morningstar US Real Asset	6.52%	-2.59%	1.99%	1.41%	3.20%	4.37%	6.70%
Bloomberg Barclays US Corporate High Yield	10.18%	0.03%	3.34%	4.80%	6.67%	6.86%	7.00%

Source: PitchBook. Geography: North America . Data as of June 30, 2020

Note: all public index values are total return CAGRs

Private equity



Private equity

IRR by vintage

Pooled IRRs

IRR hurdle rates

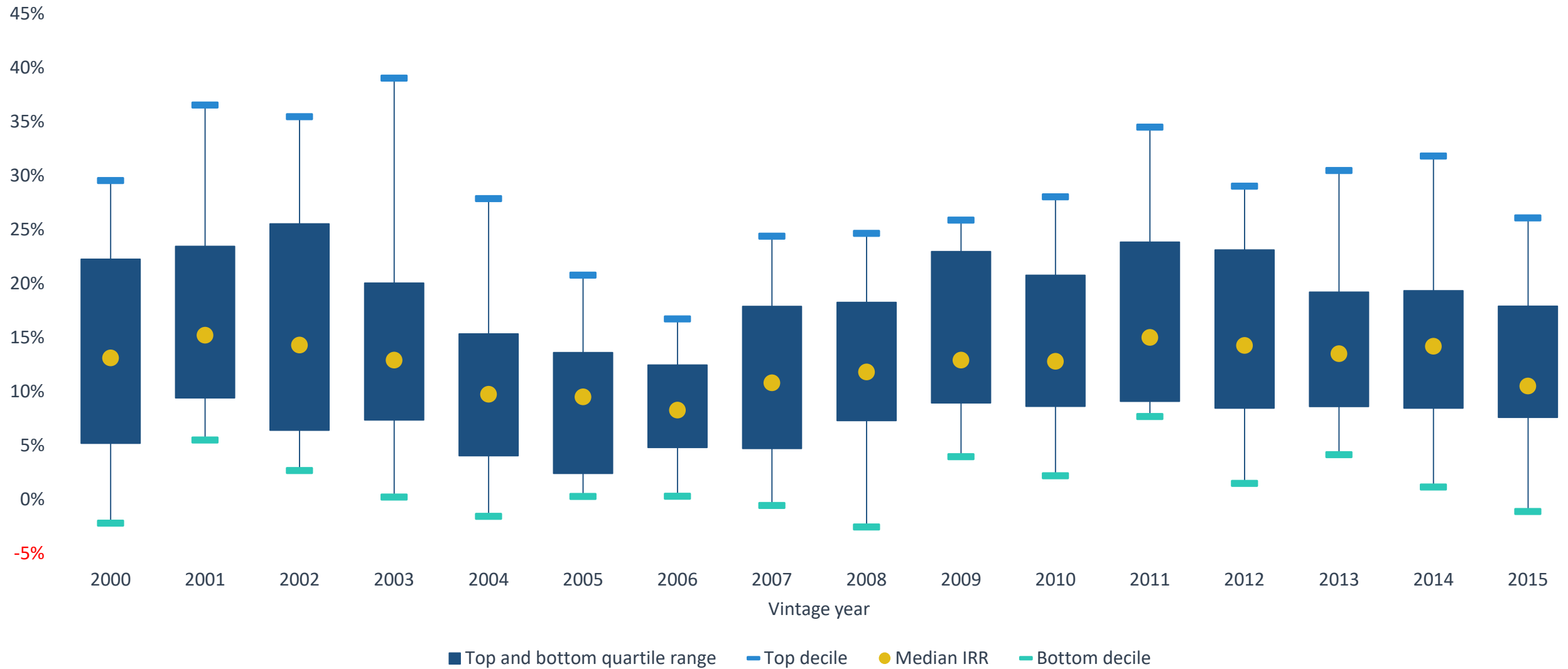
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996	9.68%	8.09%	4	36.01%	28.38%	16.67%	9.91%	-2.24%	18.09%	85
1996	11.30%	6.57%	21	23.02%	15.57%	5.62%	0.30%	-6.63%	13.85%	33
1997	7.59%	5.63%	19	15.96%	12.44%	6.30%	-0.41%	-3.36%	15.85%	27
1998	5.25%	5.38%	36	16.88%	10.33%	7.13%	0.36%	-8.41%	10.13%	48
1999	9.33%	11.49%	34	25.62%	16.87%	11.79%	4.85%	-0.27%	11.93%	49
2000	14.94%	11.26%	43	29.52%	22.25%	13.10%	5.20%	-2.21%	12.24%	59
2001	19.14%	17.09%	24	36.52%	23.45%	15.20%	9.41%	5.49%	18.02%	30
2002	20.07%	15.79%	31	35.44%	25.52%	14.30%	6.40%	2.67%	22.29%	43
2003	15.93%	13.70%	19	39.01%	20.03%	12.90%	7.36%	0.22%	13.38%	25
2004	11.45%	10.22%	44	27.84%	15.34%	9.73%	4.05%	-1.57%	17.29%	51
2005	11.04%	10.17%	57	20.76%	13.60%	9.50%	2.40%	0.27%	9.82%	73
2006	7.98%	7.98%	90	16.72%	12.45%	8.26%	4.81%	0.30%	8.77%	106
2007	10.07%	10.93%	79	24.37%	17.88%	10.80%	4.72%	-0.57%	12.88%	103
2008	13.88%	12.15%	73	24.64%	18.25%	11.80%	7.30%	-2.56%	16.83%	83
2009	18.73%	17.38%	36	25.85%	22.96%	12.89%	8.94%	3.96%	12.19%	44
2010	15.55%	12.29%	36	28.02%	20.77%	12.78%	8.63%	2.19%	13.07%	44
2011	15.89%	15.88%	51	34.47%	23.84%	15.00%	9.08%	7.66%	20.41%	57
2012	15.59%	14.38%	72	29.00%	23.10%	14.26%	8.46%	1.47%	14.04%	80
2013	12.37%	13.39%	69	30.45%	19.20%	13.50%	8.60%	4.14%	12.47%	73
2014	17.58%	15.76%	74	31.80%	19.33%	14.18%	8.46%	1.15%	13.34%	76
2015	16.12%	15.15%	82	26.06%	17.90%	10.50%	7.60%	-1.12%	11.76%	92
2016	17.05%	16.95%	81	31.74%	23.85%	13.71%	8.14%	4.60%	13.69%	87
2017	13.44%	11.81%	95	27.88%	16.38%	8.28%	1.81%	-8.98%	16.89%	94
2018	3.63%	6.11%	89	40.46%	15.73%	7.82%	-8.44%	-17.80%	28.66%	84

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Private equity

IRRs by vintage





Private equity

PMEs by vintage

S&P 500 index

Russell 3000 Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	11.30%	8.54%	1.38	11.30%	8.53%	1.35	21
1997	7.59%	7.84%	1.26	7.59%	7.91%	1.22	19
1998	5.25%	6.85%	1.23	5.25%	6.95%	1.18	36
1999	9.33%	6.06%	1.33	9.33%	6.36%	1.29	34
2000	14.94%	5.68%	1.45	14.94%	5.84%	1.41	43
2001	19.14%	6.52%	1.56	19.14%	6.72%	1.53	24
2002	20.07%	7.50%	1.49	20.07%	7.66%	1.46	31
2003	15.93%	9.57%	1.40	15.93%	9.71%	1.37	19
2004	11.45%	8.23%	1.31	11.45%	8.24%	1.29	44
2005	11.04%	8.30%	1.29	11.04%	8.28%	1.27	57
2006	7.98%	8.21%	1.04	7.98%	8.04%	1.03	90
2007	10.07%	7.85%	1.00	10.07%	7.67%	0.99	79
2008	13.88%	8.82%	1.04	13.88%	8.71%	1.03	73
2009	18.73%	14.51%	1.14	18.73%	14.40%	1.14	36
2010	15.55%	12.10%	1.09	15.55%	11.82%	1.10	36
2011	15.89%	11.46%	1.12	15.89%	10.99%	1.14	51
2012	15.59%	12.17%	1.12	15.59%	11.73%	1.14	72
2013	12.37%	11.81%	1.05	12.37%	11.28%	1.06	69
2014	17.58%	10.01%	1.23	17.58%	9.24%	1.25	74
2015	16.12%	9.12%	1.14	16.12%	8.42%	1.16	82
2016	17.05%	12.30%	1.16	17.05%	11.89%	1.18	81
2017	13.44%	9.53%	1.10	13.44%	8.63%	1.11	95
2018	3.63%	5.24%	1.00	3.63%	4.24%	1.01	89

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Private equity

Multiples by vintage

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996	1.45x	1.42x	0.03x	1.43x	1.32x	0.11x	4
1996	1.57x	1.57x	0.00x	1.33x	1.33x	0.00x	21
1997	1.48x	1.48x	0.00x	1.31x	1.31x	0.00x	19
1998	1.32x	1.31x	0.00x	1.29x	1.28x	0.00x	36
1999	1.48x	1.48x	0.00x	1.64x	1.63x	0.01x	34
2000	1.79x	1.78x	0.01x	1.66x	1.64x	0.02x	43
2001	2.02x	2.01x	0.00x	1.86x	1.86x	0.00x	24
2002	2.00x	1.98x	0.02x	1.76x	1.74x	0.02x	31
2003	1.85x	1.81x	0.04x	1.71x	1.66x	0.05x	19
2004	1.72x	1.66x	0.06x	1.62x	1.55x	0.07x	44
2005	1.72x	1.68x	0.04x	1.64x	1.59x	0.05x	57
2006	1.53x	1.47x	0.07x	1.49x	1.41x	0.09x	90
2007	1.56x	1.40x	0.16x	1.64x	1.51x	0.13x	79
2008	1.69x	1.54x	0.15x	1.62x	1.46x	0.16x	73
2009	1.90x	1.73x	0.17x	1.86x	1.62x	0.23x	36
2010	1.86x	1.39x	0.47x	1.65x	1.25x	0.40x	36
2011	1.83x	1.26x	0.57x	1.83x	1.29x	0.54x	51
2012	1.66x	1.01x	0.65x	1.60x	0.99x	0.61x	72
2013	1.43x	0.79x	0.64x	1.50x	0.75x	0.75x	69
2014	1.62x	0.74x	0.88x	1.59x	0.68x	0.91x	74
2015	1.40x	0.44x	0.96x	1.40x	0.43x	0.97x	82
2016	1.35x	0.25x	1.11x	1.37x	0.31x	1.06x	81
2017	1.19x	0.14x	1.05x	1.18x	0.18x	0.99x	95
2018	1.03x	0.06x	0.97x	1.06x	0.10x	0.96x	89

Source: PitchBook. Geography: North America. Data as of June 30, 2020



Private equity

Multiples by vintage

TVPI

DPI

Vintage year	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	Number of funds
Pre-1996		1.64x	1.39x	1.15x			1.64x	1.20x	0.80x		4
1996	2.14x	1.82x	1.23x	0.78x	0.51x	2.14x	1.82x	1.23x	0.78x	0.51x	21
1997	1.79x	1.68x	1.40x	0.97x	0.82x	1.79x	1.68x	1.40x	0.97x	0.82x	19
1998	1.86x	1.54x	1.29x	0.95x	0.63x	1.86x	1.54x	1.27x	0.95x	0.63x	36
1999	2.33x	2.01x	1.57x	1.23x	1.00x	2.33x	1.95x	1.57x	1.19x	1.00x	34
2000	2.37x	2.08x	1.66x	1.28x	0.87x	2.37x	2.07x	1.60x	1.28x	0.80x	43
2001	2.83x	2.28x	1.81x	1.52x	1.28x	2.83x	2.28x	1.81x	1.52x	1.28x	24
2002	2.51x	2.11x	1.69x	1.33x	1.21x	2.49x	2.10x	1.69x	1.33x	1.21x	31
2003	2.83x	1.88x	1.68x	1.43x	0.77x	2.80x	1.87x	1.68x	1.38x	0.68x	19
2004	2.54x	1.99x	1.59x	1.25x	0.67x	2.53x	1.98x	1.57x	1.14x	0.66x	44
2005	2.37x	1.86x	1.56x	1.27x	0.99x	2.34x	1.82x	1.50x	1.16x	0.97x	57
2006	2.12x	1.71x	1.42x	1.21x	0.95x	2.08x	1.64x	1.37x	1.17x	0.80x	90
2007	2.39x	2.04x	1.59x	1.28x	0.98x	2.31x	1.91x	1.45x	1.06x	0.87x	79
2008	2.20x	1.97x	1.59x	1.31x	0.91x	2.04x	1.85x	1.36x	1.14x	0.76x	73
2009	2.53x	2.17x	1.73x	1.50x	1.27x	2.37x	2.00x	1.43x	1.20x	1.09x	36
2010	2.42x	2.14x	1.52x	1.26x	0.84x	2.08x	1.64x	1.21x	0.98x	0.51x	36
2011	3.26x	2.11x	1.64x	1.31x	1.07x	2.11x	1.57x	1.20x	0.83x	0.56x	51
2012	2.13x	1.93x	1.54x	1.28x	1.01x	1.60x	1.26x	0.92x	0.58x	0.40x	72
2013	1.98x	1.64x	1.50x	1.29x	1.04x	1.26x	1.05x	0.67x	0.41x	0.13x	69
2014	2.25x	1.82x	1.49x	1.21x	0.97x	1.43x	0.84x	0.60x	0.25x	0.05x	74
2015	1.93x	1.46x	1.30x	1.17x	0.97x	0.81x	0.59x	0.35x	0.14x	0.02x	82
2016	1.83x	1.56x	1.25x	1.12x	1.01x	0.68x	0.47x	0.20x	0.05x	0.00x	81
2017	1.43x	1.24x	1.13x	0.99x	0.88x	0.42x	0.20x	0.08x	0.01x	0.00x	95
2018	1.28x	1.14x	1.01x	0.93x	0.82x	0.26x	0.07x	0.01x	0.00x	0.00x	89

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Private equity

Quarterly return

Quarter end	1-quarter return
Q1 2001	-7.53%
Q2 2001	1.71%
Q3 2001	-5.64%
Q4 2001	-3.97%
Q1 2002	-1.41%
Q2 2002	-6.82%
Q3 2002	-3.81%
Q4 2002	0.65%
Q1 2003	-0.55%
Q2 2003	7.07%
Q3 2003	4.65%
Q4 2003	9.49%
Q1 2004	10.72%
Q2 2004	-3.58%
Q3 2004	2.92%
Q4 2004	12.82%
Q1 2005	3.55%
Q2 2005	7.87%
Q3 2005	8.26%
Q4 2005	10.06%
Q1 2006	4.79%
Q2 2006	3.66%
Q3 2006	4.65%
Q4 2006	10.58%

Quarter end	1-quarter return
Q1 2007	5.38%
Q2 2007	9.47%
Q3 2007	3.38%
Q4 2007	2.59%
Q1 2008	-0.97%
Q2 2008	-0.75%
Q3 2008	-6.75%
Q4 2008	-11.20%
Q1 2009	-5.59%
Q2 2009	3.79%
Q3 2009	4.00%
Q4 2009	6.81%
Q1 2010	4.97%
Q2 2010	2.16%
Q3 2010	3.06%
Q4 2010	7.75%
Q1 2011	5.52%
Q2 2011	4.78%
Q3 2011	-2.01%
Q4 2011	1.11%
Q1 2012	6.05%
Q2 2012	1.27%
Q3 2012	3.74%
Q4 2012	2.77%

Quarter end	1-quarter return
Q1 2013	4.08%
Q2 2013	3.84%
Q3 2013	5.19%
Q4 2013	5.31%
Q1 2014	5.11%
Q2 2014	4.79%
Q3 2014	1.59%
Q4 2014	4.05%
Q1 2015	4.55%
Q2 2015	5.93%
Q3 2015	0.34%
Q4 2015	1.57%
Q1 2016	1.47%
Q2 2016	5.58%
Q3 2016	4.47%
Q4 2016	1.34%
Q1 2017	4.36%
Q2 2017	5.50%
Q3 2017	3.39%
Q4 2017	4.82%
Q1 2018	4.65%
Q2 2018	3.70%
Q3 2018	3.56%
Q4 2018	-1.30%

Quarter end	1-quarter return
Q1 2019	5.27%
Q2 2019	2.43%
Q3 2019	3.78%
Q4 2019	4.46%
Q1 2020	-7.74%
Q2 2020	10.18%

Venture capital



Venture capital

IRR by vintage

Pooled IRRs

IRR hurdle rates

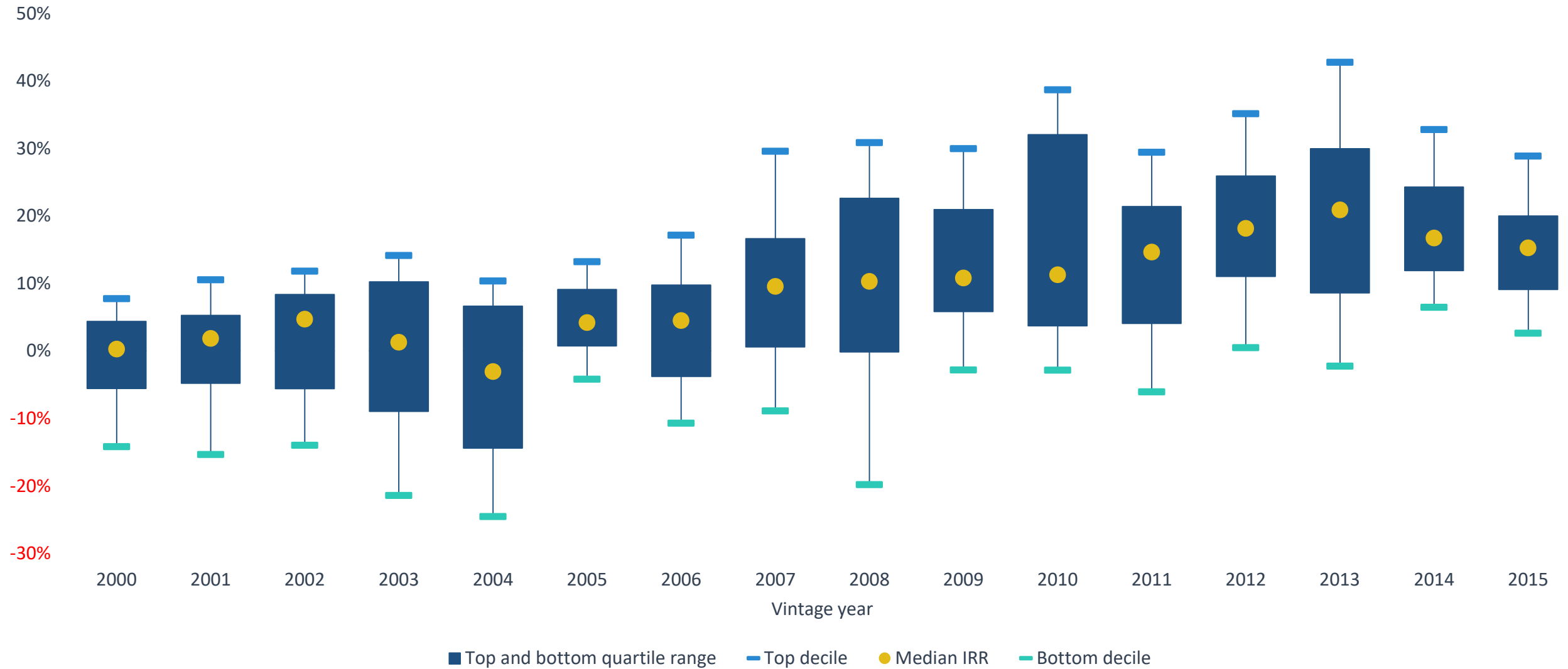
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996	61.44%	74.32%	3	73.23%	35.48%	14.91%	6.66%	-0.36%	63.80%	71
1996	207.48%	184.74%	6	131.73%	94.46%	37.52%	12.36%	-3.04%	61.20%	12
1997	6.69%	9.76%	13	141.58%	49.58%	14.78%	0.00%	-7.01%	127.21%	20
1998	6.39%	4.98%	20	48.87%	15.43%	9.22%	-7.71%	-10.82%	36.65%	23
1999	-2.13%	-3.17%	39	11.20%	6.00%	-4.40%	-12.40%	-17.37%	13.31%	49
2000	-0.05%	-1.54%	52	7.73%	4.39%	0.29%	-5.55%	-14.20%	11.18%	70
2001	4.63%	2.25%	34	10.53%	5.27%	1.84%	-4.78%	-15.36%	10.63%	44
2002	3.02%	3.24%	15	11.82%	8.36%	4.70%	-5.59%	-13.98%	11.65%	23
2003	6.04%	1.40%	18	14.15%	10.25%	1.29%	-8.97%	-21.41%	38.02%	27
2004	4.05%	6.28%	22	10.36%	6.64%	-3.05%	-14.41%	-24.55%	21.04%	34
2005	6.94%	6.84%	27	13.20%	9.11%	4.20%	0.74%	-4.20%	18.28%	41
2006	5.16%	3.44%	41	17.14%	9.76%	4.50%	-3.78%	-10.72%	13.45%	49
2007	11.97%	12.00%	42	29.58%	16.64%	9.55%	0.60%	-8.90%	15.93%	51
2008	14.12%	10.64%	44	30.86%	22.63%	10.30%	-0.15%	-19.81%	25.08%	55
2009	10.23%	8.53%	20	29.98%	20.95%	10.80%	5.84%	-2.81%	16.46%	23
2010	16.54%	18.81%	19	38.68%	32.06%	11.29%	3.72%	-2.85%	18.94%	22
2011	18.52%	16.75%	19	29.42%	21.41%	14.65%	4.07%	-6.07%	13.93%	38
2012	16.96%	16.54%	16	35.15%	25.91%	18.15%	11.05%	0.48%	15.33%	24
2013	20.42%	15.60%	22	42.77%	29.98%	20.90%	8.62%	-2.27%	27.80%	35
2014	21.65%	21.93%	31	32.80%	24.30%	16.73%	11.91%	6.45%	90.73%	41
2015	18.40%	16.76%	36	28.88%	19.99%	15.28%	9.12%	2.63%	11.05%	50
2016	22.32%	25.49%	44	43.23%	32.95%	21.50%	9.89%	5.27%	14.64%	49
2017	23.53%	25.72%	32	56.39%	31.25%	17.20%	9.30%	2.77%	24.16%	39
2018	12.65%	12.83%	38	28.62%	16.04%	10.57%	-1.37%	-7.92%	20.42%	38

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Venture capital

IRRs by vintage





Venture capital

PMEs by vintage

S&P 500 index

Russell 2000 Growth Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	207.48%	8.54%	4.93	207.48%	6.56%	4.83	6
1997	6.69%	7.84%	1.04	6.69%	6.46%	1.02	13
1998	6.39%	6.85%	1.17	6.39%	5.93%	1.11	20
1999	-2.13%	6.06%	0.75	-2.13%	6.40%	0.73	39
2000	-0.05%	5.68%	0.73	-0.05%	4.24%	0.67	52
2001	4.63%	6.52%	0.90	4.63%	6.65%	0.82	34
2002	3.02%	7.50%	0.87	3.02%	7.66%	0.81	15
2003	6.04%	9.57%	0.94	6.04%	10.30%	0.88	18
2004	4.05%	8.23%	0.82	4.05%	7.79%	0.78	22
2005	6.94%	8.30%	0.92	6.94%	8.05%	0.88	27
2006	5.16%	8.21%	0.79	5.16%	7.35%	0.76	41
2007	11.97%	7.85%	1.03	11.97%	7.44%	1.01	42
2008	14.12%	8.82%	1.05	14.12%	8.62%	1.05	44
2009	10.23%	14.51%	0.85	10.23%	14.12%	0.89	20
2010	16.54%	12.10%	1.14	16.54%	10.99%	1.21	19
2011	18.52%	11.46%	1.30	18.52%	9.05%	1.45	19
2012	16.96%	12.17%	1.28	16.96%	9.78%	1.43	16
2013	20.42%	11.81%	1.42	20.42%	9.36%	1.60	22
2014	21.65%	10.01%	1.47	21.65%	5.92%	1.65	31
2015	18.40%	9.12%	1.25	18.40%	5.68%	1.38	36
2016	22.32%	12.30%	1.30	22.32%	10.86%	1.44	44
2017	23.53%	9.53%	1.28	23.53%	5.98%	1.40	32
2018	12.65%	5.24%	1.08	12.65%	-0.41%	1.17	38

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Venture capital

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996	2.68x	2.68x	0.00x	2.98x	2.98x	0.00x	3
1996	6.29x	6.26x	0.03x	5.50x	5.47x	0.03x	6
1997	1.22x	1.22x	0.00x	1.33x	1.33x	0.00x	13
1998	1.32x	1.30x	0.01x	1.21x	1.20x	0.01x	20
1999	0.86x	0.79x	0.07x	0.80x	0.76x	0.04x	39
2000	1.00x	0.94x	0.05x	0.90x	0.86x	0.04x	52
2001	1.36x	1.31x	0.05x	1.17x	1.09x	0.08x	34
2002	1.17x	1.16x	0.02x	1.21x	1.11x	0.10x	15
2003	1.42x	1.37x	0.05x	1.08x	1.05x	0.03x	18
2004	1.31x	1.20x	0.11x	1.50x	1.35x	0.15x	22
2005	1.59x	1.35x	0.24x	1.60x	1.32x	0.28x	27
2006	1.36x	1.15x	0.21x	1.25x	1.01x	0.24x	41
2007	1.87x	1.56x	0.30x	1.93x	1.56x	0.36x	42
2008	1.96x	1.68x	0.28x	1.74x	1.37x	0.36x	44
2009	1.82x	1.11x	0.71x	1.65x	0.95x	0.69x	20
2010	2.01x	1.43x	0.59x	2.30x	1.66x	0.64x	19
2011	2.29x	1.19x	1.10x	2.20x	1.01x	1.19x	19
2012	2.21x	0.93x	1.29x	2.25x	0.79x	1.46x	16
2013	2.06x	0.60x	1.46x	1.79x	0.46x	1.33x	22
2014	2.09x	0.37x	1.72x	2.04x	0.38x	1.67x	31
2015	1.61x	0.29x	1.32x	1.55x	0.25x	1.30x	36
2016	1.52x	0.10x	1.42x	1.66x	0.14x	1.51x	44
2017	1.43x	0.09x	1.34x	1.54x	0.12x	1.43x	32
2018	1.14x	0.06x	1.08x	1.18x	0.16x	1.02x	38

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Venture capital

Multiples by vintage

TVPI

DPI

Vintage year	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	Number of funds
Pre-1996			2.13x					2.13x			3
1996		4.87x	2.90x	1.85x			4.87x	2.90x	1.72x		6
1997	1.95x	1.55x	1.04x	0.75x	0.64x	1.95x	1.55x	1.04x	0.75x	0.64x	13
1998	1.80x	1.70x	1.21x	0.68x	0.47x	1.80x	1.70x	1.20x	0.68x	0.46x	20
1999	1.66x	1.13x	0.71x	0.39x	0.20x	1.37x	1.08x	0.71x	0.36x	0.20x	39
2000	1.44x	1.17x	0.89x	0.56x	0.36x	1.43x	1.13x	0.87x	0.54x	0.26x	52
2001	1.72x	1.43x	1.18x	0.75x	0.29x	1.72x	1.38x	1.05x	0.70x	0.25x	34
2002	1.77x	1.73x	1.18x	0.74x	0.49x	1.76x	1.67x	1.18x	0.55x	0.31x	15
2003	1.74x	1.45x	1.15x	0.48x	0.39x	1.74x	1.41x	1.11x	0.48x	0.39x	18
2004	1.80x	1.53x	1.04x	0.57x	0.33x	1.77x	1.33x	0.77x	0.42x	0.10x	22
2005	2.25x	1.67x	1.29x	1.07x	0.66x	2.02x	1.58x	1.15x	0.92x	0.53x	27
2006	2.12x	1.64x	1.29x	0.69x	0.45x	1.76x	1.43x	1.01x	0.55x	0.26x	41
2007	2.88x	2.34x	1.76x	0.95x	0.45x	2.57x	2.01x	1.37x	0.53x	0.17x	42
2008	2.98x	2.18x	1.47x	0.85x	0.26x	2.58x	1.77x	0.97x	0.44x	0.20x	44
2009	2.35x	1.94x	1.67x	1.22x	0.85x	1.63x	1.35x	0.90x	0.50x	0.35x	20
2010	3.47x	2.65x	1.68x	1.25x	0.88x	2.90x	1.79x	1.16x	0.55x	0.44x	19
2011	3.60x	3.23x	2.02x	1.44x	0.97x	1.71x	1.32x	1.05x	0.53x	0.20x	19
2012	3.28x	2.70x	1.98x	1.45x	0.98x	1.55x	0.97x	0.66x	0.44x	0.05x	16
2013	2.87x	2.27x	1.66x	1.45x	0.85x	1.24x	0.56x	0.27x	0.16x	0.00x	22
2014	3.20x	2.16x	1.81x	1.50x	1.19x	1.00x	0.51x	0.24x	0.07x	0.01x	31
2015	1.81x	1.72x	1.53x	1.23x	1.05x	0.63x	0.27x	0.09x	0.00x	0.00x	36
2016	2.21x	1.76x	1.47x	1.22x	1.15x	0.42x	0.18x	0.02x	0.00x	0.00x	44
2017	2.40x	1.72x	1.28x	1.13x	1.05x	0.30x	0.13x	0.03x	0.00x	0.00x	32
2018	1.57x	1.18x	1.04x	0.96x	0.89x	0.48x	0.02x	0.00x	0.00x	0.00x	38

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Venture capital

Quarterly return

Quarter end	1-quarter return
Q1 2001	-11.59%
Q2 2001	-10.02%
Q3 2001	-14.24%
Q4 2001	-11.84%
Q1 2002	-8.24%
Q2 2002	-13.10%
Q3 2002	-10.41%
Q4 2002	-11.20%
Q1 2003	-8.09%
Q2 2003	-1.53%
Q3 2003	-2.40%
Q4 2003	6.16%
Q1 2004	-3.01%
Q2 2004	0.96%
Q3 2004	-1.00%
Q4 2004	3.18%
Q1 2005	-1.90%
Q2 2005	0.58%
Q3 2005	5.14%
Q4 2005	2.80%
Q1 2006	3.07%
Q2 2006	0.68%
Q3 2006	1.79%
Q4 2006	7.18%

Quarter end	1-quarter return
Q1 2007	2.37%
Q2 2007	5.03%
Q3 2007	2.60%
Q4 2007	3.86%
Q1 2008	2.52%
Q2 2008	-2.15%
Q3 2008	-2.80%
Q4 2008	-8.96%
Q1 2009	-3.71%
Q2 2009	-0.51%
Q3 2009	0.46%
Q4 2009	3.28%
Q1 2010	1.45%
Q2 2010	-0.04%
Q3 2010	3.81%
Q4 2010	6.18%
Q1 2011	4.56%
Q2 2011	4.88%
Q3 2011	-0.26%
Q4 2011	1.89%
Q1 2012	4.44%
Q2 2012	0.95%
Q3 2012	-0.13%
Q4 2012	2.13%

Quarter end	1-quarter return
Q1 2013	2.22%
Q2 2013	4.64%
Q3 2013	5.55%
Q4 2013	7.51%
Q1 2014	5.97%
Q2 2014	3.87%
Q3 2014	2.79%
Q4 2014	6.92%
Q1 2015	4.85%
Q2 2015	5.98%
Q3 2015	-0.21%
Q4 2015	2.65%
Q1 2016	-3.27%
Q2 2016	-0.14%
Q3 2016	2.73%
Q4 2016	0.77%
Q1 2017	2.93%
Q2 2017	1.95%
Q3 2017	4.03%
Q4 2017	2.53%
Q1 2018	6.44%
Q2 2018	6.43%
Q3 2018	4.33%
Q4 2018	2.16%

Quarter end	1-quarter return
Q1 2019	6.24%
Q2 2019	2.56%
Q3 2019	0.73%
Q4 2019	6.68%
Q1 2020	-1.11%
Q2 2020	8.31%

Real estate



Real estate

IRR by vintage

Pooled IRRs

IRR hurdle rates

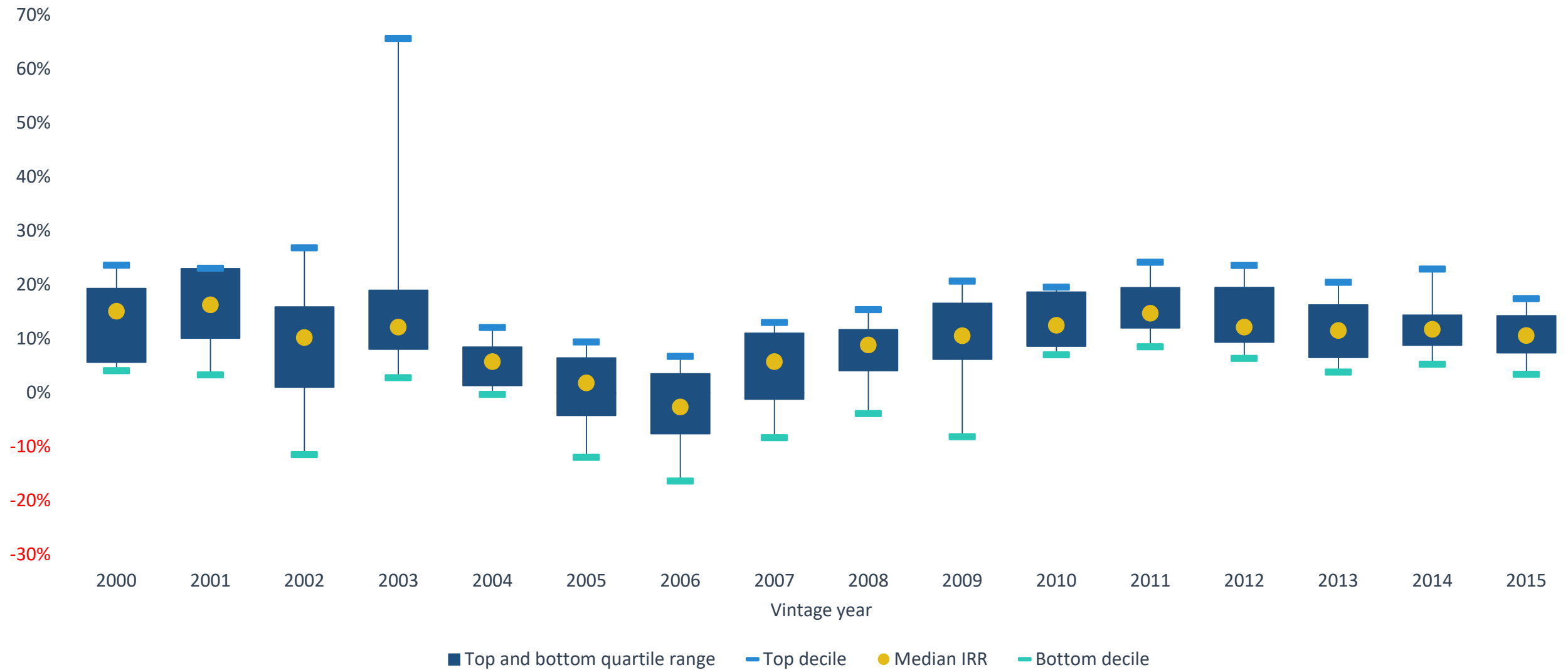
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996				22.30%	19.73%	11.37%	7.86%	6.05%	7.58%	11
1996	9.54%	4.71%	4		10.07%	8.17%	5.39%		4.53%	6
1997	13.93%	11.51%	4		16.47%	13.42%	6.35%		6.88%	7
1998	4.86%	5.49%	8	14.17%	9.86%	7.24%	2.64%	-1.01%	6.11%	12
1999	11.81%	9.15%	2		20.87%	18.00%	10.72%		9.12%	7
2000	12.79%	11.69%	11	23.59%	19.30%	15.05%	5.62%	4.04%	9.58%	12
2001	13.89%	9.84%	2	23.00%	22.99%	16.26%	10.07%	3.25%	8.48%	11
2002	8.57%	15.89%	3	26.82%	15.88%	10.19%	1.01%	-11.49%	20.43%	10
2003	7.63%	8.48%	4	65.58%	18.97%	12.13%	8.02%	2.74%	53.38%	17
2004	3.84%	5.30%	7	12.03%	8.43%	5.70%	1.30%	-0.35%	16.61%	20
2005	0.61%	-0.36%	22	9.38%	6.41%	1.78%	-4.27%	-12.03%	19.17%	38
2006	-0.61%	-0.74%	29	6.67%	3.50%	-2.68%	-7.65%	-16.39%	9.38%	42
2007	4.61%	1.88%	40	12.97%	11.00%	5.70%	-1.23%	-8.37%	11.23%	53
2008	6.87%	6.20%	27	15.34%	11.67%	8.82%	4.05%	-3.91%	10.81%	44
2009	7.89%	6.08%	17	20.62%	16.55%	10.50%	6.15%	-8.20%	12.91%	19
2010	17.13%	12.05%	17	19.50%	18.61%	12.45%	8.57%	7.00%	7.27%	31
2011	16.18%	17.00%	28	24.15%	19.44%	14.68%	11.98%	8.49%	6.70%	38
2012	14.62%	13.57%	39	23.54%	19.48%	12.11%	9.31%	6.33%	6.81%	47
2013	13.06%	10.90%	37	20.41%	16.24%	11.50%	6.51%	3.78%	7.68%	40
2014	10.89%	11.43%	36	22.85%	14.34%	11.70%	8.76%	5.24%	6.99%	45
2015	10.79%	9.80%	54	17.40%	14.22%	10.56%	7.34%	3.37%	5.62%	59
2016	10.38%	11.02%	40	16.65%	10.43%	8.08%	4.60%	-5.19%	9.53%	50
2017	21.20%	19.77%	43	15.80%	12.08%	8.78%	3.53%	-2.92%	9.96%	46
2018	7.95%	3.05%	46	15.32%	8.76%	0.34%	-8.71%	-20.30%	16.67%	45

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Real estate

IRRs by vintage





Real estate

PMEs by vintage

S&P 500 index

Morningstar US Real Estate Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	9.54%	8.54%	1.10	9.54%	9.05%	1.03	4
1997	13.93%	7.84%	1.42	13.93%	8.50%	1.26	4
1998	4.86%	6.85%	1.23	4.86%	8.14%	0.70	8
1999	11.81%	6.06%	1.72	11.81%	9.22%	0.97	2
2000	12.79%	5.68%	1.37	12.79%	9.62%	0.86	11
2001	13.89%	6.52%	1.20	13.89%	8.93%	0.86	2
2002	8.57%	7.50%	0.97	8.57%	8.50%	0.87	3
2003	7.63%	9.57%	1.02	7.63%	9.02%	0.95	4
2004	3.84%	8.23%	0.91	3.84%	7.00%	0.93	7
2005	0.61%	8.30%	0.67	0.61%	6.30%	0.75	22
2006	-0.61%	8.21%	0.57	-0.61%	4.87%	0.64	29
2007	4.61%	7.85%	0.76	4.61%	3.07%	0.79	40
2008	6.87%	8.82%	0.80	6.87%	5.79%	0.82	27
2009	7.89%	14.51%	0.79	7.89%	13.62%	0.83	17
2010	17.13%	12.10%	1.06	17.13%	9.16%	1.10	17
2011	16.18%	11.46%	1.08	16.18%	7.02%	1.21	28
2012	14.62%	12.17%	1.07	14.62%	6.70%	1.23	39
2013	13.06%	11.81%	1.05	13.06%	5.35%	1.18	37
2014	10.89%	10.01%	0.99	10.89%	5.82%	1.17	36
2015	10.79%	9.12%	1.01	10.79%	2.23%	1.18	54
2016	10.38%	12.30%	1.02	10.38%	4.17%	1.19	40
2017	21.20%	9.53%	1.20	21.20%	1.64%	1.35	43
2018	7.95%	5.24%	1.03	7.95%	3.14%	1.14	46

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Real estate

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996							
1996	1.42x	1.42x	0.00x	1.27x	1.27x	0.00x	4
1997	1.71x	1.71x	0.00x	1.58x	1.58x	0.00x	4
1998	1.21x	1.21x	0.00x	1.25x	1.25x	0.00x	8
1999	1.91x	1.91x	0.00x	1.65x	1.65x	0.00x	2
2000	1.57x	1.56x	0.00x	1.53x	1.52x	0.01x	11
2001	1.43x	1.42x	0.00x	1.31x	1.30x	0.01x	2
2002	1.23x	1.21x	0.02x	1.51x	1.37x	0.14x	3
2003	1.25x	1.24x	0.01x	1.27x	1.26x	0.01x	4
2004	1.19x	1.14x	0.05x	1.31x	1.20x	0.11x	7
2005	1.04x	1.01x	0.03x	0.98x	0.95x	0.03x	22
2006	0.96x	0.88x	0.08x	0.95x	0.87x	0.08x	29
2007	1.25x	1.21x	0.04x	1.10x	1.05x	0.04x	40
2008	1.33x	1.22x	0.11x	1.31x	1.23x	0.08x	27
2009	1.34x	1.21x	0.14x	1.29x	1.16x	0.12x	17
2010	1.52x	1.46x	0.06x	1.54x	1.33x	0.20x	17
2011	1.65x	1.40x	0.25x	1.76x	1.52x	0.24x	28
2012	1.57x	1.28x	0.29x	1.49x	1.22x	0.27x	39
2013	1.42x	1.06x	0.36x	1.40x	0.96x	0.44x	37
2014	1.36x	0.81x	0.55x	1.42x	0.69x	0.73x	36
2015	1.29x	0.54x	0.75x	1.29x	0.59x	0.71x	54
2016	1.23x	0.35x	0.88x	1.28x	0.36x	0.91x	40
2017	1.34x	0.35x	0.98x	1.34x	0.38x	0.96x	43
2018	1.08x	0.14x	0.93x	1.03x	0.16x	0.88x	46

Source: PitchBook. Geography: North America. Data as of June 30, 2020



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	
Pre-1996											
1996		1.49x	1.29x	1.08x			1.49x	1.29x	1.08x		4
1997		1.66x	1.46x	1.38x			1.66x	1.45x	1.38x		4
1998		1.39x	1.31x	1.21x			1.39x	1.31x	1.18x		8
1999			1.66x					1.66x			2
2000	1.87x	1.61x	1.46x	1.28x	1.20x	1.87x	1.61x	1.46x	1.27x	1.12x	11
2001			1.31x					1.31x			2
2002			1.38x					1.38x			3
2003		1.36x	1.28x	1.19x			1.36x	1.26x	1.15x		4
2004		1.62x	1.17x	0.98x			1.47x	1.11x	0.89x		7
2005	1.46x	1.15x	1.01x	0.70x	0.45x	1.46x	1.14x	0.97x	0.66x	0.44x	22
2006	1.59x	1.13x	0.81x	0.48x	0.35x	1.36x	1.08x	0.75x	0.42x	0.28x	29
2007	1.64x	1.42x	1.16x	0.80x	0.43x	1.63x	1.36x	1.07x	0.74x	0.41x	40
2008	1.69x	1.58x	1.46x	1.11x	0.64x	1.66x	1.52x	1.38x	0.99x	0.52x	27
2009	1.96x	1.51x	1.31x	1.16x	0.50x	1.84x	1.50x	1.20x	0.61x	0.44x	17
2010	1.83x	1.74x	1.54x	1.47x	1.20x	1.70x	1.66x	1.44x	1.09x	0.83x	17
2011	2.20x	1.93x	1.70x	1.49x	1.35x	2.04x	1.83x	1.50x	1.28x	1.00x	28
2012	1.88x	1.55x	1.43x	1.37x	1.24x	1.76x	1.48x	1.25x	0.96x	0.66x	39
2013	1.66x	1.59x	1.48x	1.20x	1.12x	1.55x	1.32x	1.06x	0.56x	0.37x	37
2014	1.64x	1.53x	1.33x	1.20x	1.15x	1.21x	0.97x	0.73x	0.39x	0.21x	36
2015	1.54x	1.42x	1.29x	1.16x	1.08x	1.18x	0.92x	0.40x	0.20x	0.10x	54
2016	1.56x	1.35x	1.19x	1.09x	0.95x	0.62x	0.53x	0.37x	0.06x	0.02x	40
2017	1.31x	1.25x	1.14x	1.05x	0.94x	0.43x	0.30x	0.11x	0.04x	0.01x	43
2018	1.16x	1.10x	1.01x	0.93x	0.84x	0.34x	0.15x	0.04x	0.02x	0.00x	46

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Real estate

Quarterly return

Quarter end	1-quarter return
Q1 2001	4.65%
Q2 2001	1.59%
Q3 2001	0.31%
Q4 2001	1.39%
Q1 2002	2.17%
Q2 2002	0.85%
Q3 2002	0.21%
Q4 2002	-0.84%
Q1 2003	-2.59%
Q2 2003	0.32%
Q3 2003	3.74%
Q4 2003	8.93%
Q1 2004	-5.33%
Q2 2004	4.73%
Q3 2004	-0.02%
Q4 2004	19.24%
Q1 2005	-4.82%
Q2 2005	6.79%
Q3 2005	9.24%
Q4 2005	13.30%
Q1 2006	3.25%
Q2 2006	7.69%
Q3 2006	6.69%
Q4 2006	22.87%

Quarter end	1-quarter return
Q1 2007	-0.84%
Q2 2007	1.10%
Q3 2007	2.65%
Q4 2007	5.94%
Q1 2008	-3.60%
Q2 2008	-2.84%
Q3 2008	-8.78%
Q4 2008	-11.90%
Q1 2009	-20.49%
Q2 2009	-12.06%
Q3 2009	-10.07%
Q4 2009	-7.01%
Q1 2010	-9.54%
Q2 2010	9.99%
Q3 2010	3.27%
Q4 2010	8.12%
Q1 2011	7.45%
Q2 2011	3.55%
Q3 2011	0.95%
Q4 2011	0.09%
Q1 2012	5.31%
Q2 2012	0.09%
Q3 2012	6.11%
Q4 2012	2.26%

Quarter end	1-quarter return
Q1 2013	4.02%
Q2 2013	5.47%
Q3 2013	0.71%
Q4 2013	7.22%
Q1 2014	3.39%
Q2 2014	4.13%
Q3 2014	3.53%
Q4 2014	3.97%
Q1 2015	3.47%
Q2 2015	4.21%
Q3 2015	2.52%
Q4 2015	2.02%
Q1 2016	2.34%
Q2 2016	2.39%
Q3 2016	3.17%
Q4 2016	1.73%
Q1 2017	4.13%
Q2 2017	1.65%
Q3 2017	3.27%
Q4 2017	1.94%
Q1 2018	3.07%
Q2 2018	2.54%
Q3 2018	1.43%
Q4 2018	1.33%

Quarter end	1-quarter return
Q1 2019	1.81%
Q2 2019	1.29%
Q3 2019	3.56%
Q4 2019	0.18%
Q1 2020	1.65%
Q2 2020	-1.86%

Real assets



Real assets

IRR by vintage

Pooled IRRs

IRR hurdle rates

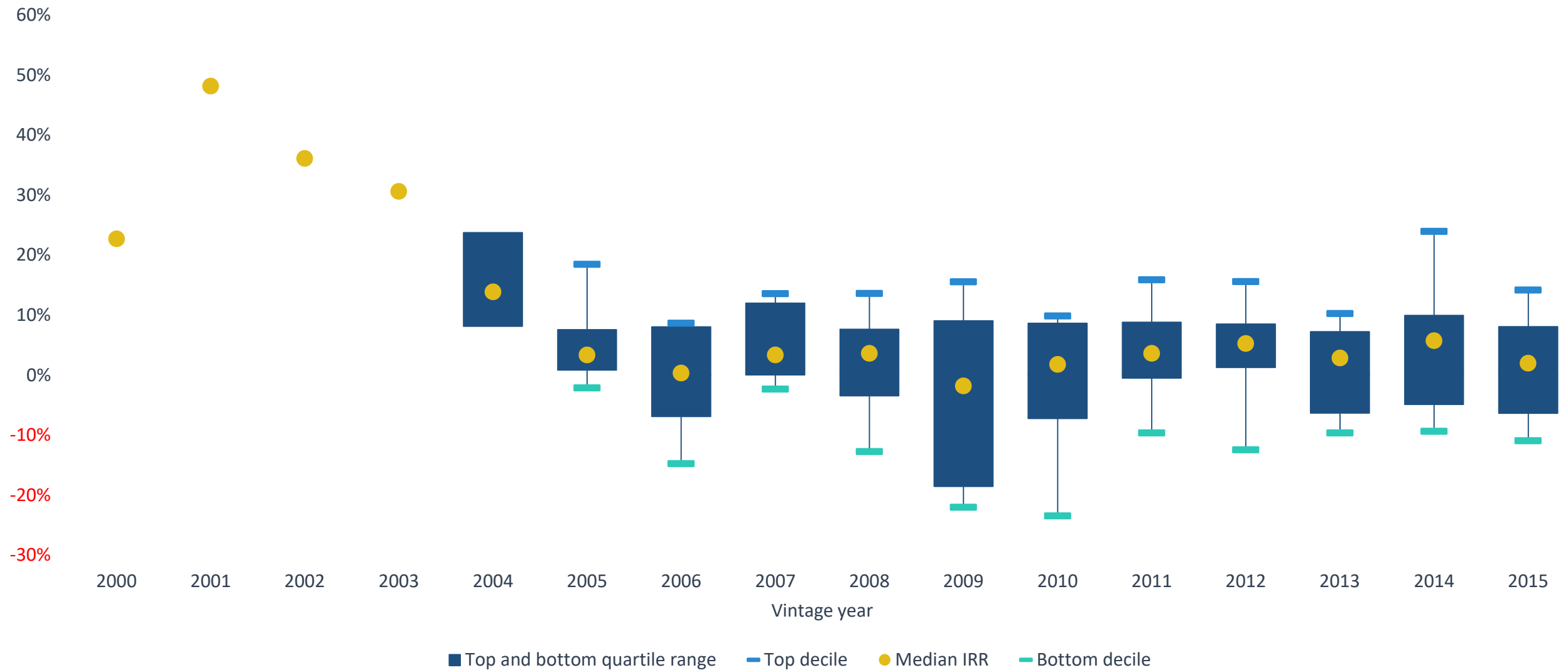
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996	18.01%	18.01%	1		16.93%	11.62%	4.25%		12.03%	8
1996					24.27%	17.47%	10.53%		8.01%	4
1997	17.99%		3		29.52%	23.50%	17.00%		9.97%	5
1998	16.47%	18.18%	3		28.68%	20.23%	9.81%		12.88%	6
1999	25.42%	25.42%	1		17.53%	11.50%	8.28%		8.37%	4
2000						22.67%				1
2001	49.72%	49.72%	1			48.10%				1
2002	31.17%	34.54%	3			36.05%			16.02%	3
2003	28.93%	29.44%	2			30.55%			3.32%	2
2004	23.22%	20.81%	4		23.69%	13.83%	8.12%		22.38%	7
2005	5.61%	5.27%	9	18.42%	7.52%	3.32%	0.81%	-2.16%	9.08%	11
2006	0.03%	-0.16%	10	8.60%	8.02%	0.31%	-6.93%	-14.80%	15.37%	11
2007	4.27%	4.64%	17	13.53%	11.95%	3.32%	0.00%	-2.39%	15.47%	19
2008	5.79%	4.83%	18	13.58%	7.60%	3.57%	-3.48%	-12.79%	10.82%	16
2009	2.56%	3.22%	10	15.50%	9.00%	-1.84%	-18.56%	-22.06%	21.45%	12
2010	5.09%	3.92%	16	9.80%	8.60%	1.74%	-7.25%	-23.50%	26.88%	17
2011	5.64%	4.32%	16	15.85%	8.78%	3.57%	-0.54%	-9.66%	11.05%	15
2012	3.26%	3.86%	20	15.54%	8.49%	5.21%	1.24%	-12.49%	24.10%	22
2013	4.19%	2.57%	16	10.23%	7.22%	2.80%	-6.36%	-9.68%	9.34%	19
2014	4.90%	4.21%	36	23.90%	9.91%	5.69%	-4.93%	-9.40%	14.44%	36
2015	-0.30%	5.51%	23	14.12%	8.05%	1.95%	-6.40%	-10.99%	47.69%	17
2016	7.15%	16.07%	33	13.18%	12.25%	6.80%	0.20%	-20.30%	71.92%	32
2017	3.13%	-2.39%	20	7.82%	2.94%	-8.45%	-28.07%	-34.36%	19.78%	19
2018	6.72%	5.52%	27	15.33%	10.35%	2.59%	-6.24%	-28.26%	26.67%	28

Source: PitchBook. Geography: North America. Data as of June 30, 2020



Real assets

IRRs by vintage





Real assets

PMEs by vintage

S&P 500 index

Morningstar US Real Asset Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996							
1997	17.99%	7.84%	2.13	17.99%			3
1998	16.47%	6.85%	1.87	16.47%			3
1999	25.42%	6.06%	1.76	25.42%			1
2000							
2001	49.72%	6.52%	2.35	49.72%	6.17%	2.09	1
2002	31.17%	7.50%	1.46	31.17%	6.09%	1.42	3
2003	28.93%	9.57%	1.74	28.93%	5.76%	1.69	2
2004	23.22%	8.23%	1.53	23.22%	4.99%	1.39	4
2005	5.61%	8.30%	1.01	5.61%	4.45%	0.98	9
2006	0.03%	8.21%	0.72	0.03%	4.05%	0.79	10
2007	4.27%	7.85%	0.81	4.27%	3.77%	0.97	17
2008	5.79%	8.82%	0.76	5.79%	2.92%	1.10	18
2009	2.56%	14.51%	0.65	2.56%	4.52%	0.98	10
2010	5.09%	12.10%	0.69	5.09%	3.06%	1.13	16
2011	5.64%	11.46%	0.78	5.64%	1.66%	1.18	16
2012	3.26%	12.17%	0.77	3.26%	1.04%	1.07	20
2013	4.19%	11.81%	0.81	4.19%	0.87%	1.11	16
2014	4.90%	10.01%	0.89	4.90%	1.18%	1.10	36
2015	-0.30%	9.12%	0.81	-0.30%	0.70%	0.97	23
2016	7.15%	12.30%	0.95	7.15%	2.30%	1.13	33
2017	3.13%	9.53%	0.94	3.13%	1.20%	1.05	20
2018	6.72%	5.24%	1.01	6.72%	0.62%	1.09	27

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Real assets

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996	2.47x	2.47x	0.00x	2.47x	2.47x	0.00x	1
1996							
1997	2.62x	2.18x	0.44x	4.40x	3.77x	0.62x	3
1998	1.97x	1.95x	0.02x	2.13x	2.12x	0.01x	3
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	1.91x	1.91x	0.00x	1.98x	1.98x	0.00x	3
2003	2.30x	2.30x	0.00x	2.39x	2.39x	0.00x	2
2004	1.75x	1.75x	0.00x	1.77x	1.77x	0.00x	4
2005	1.30x	1.27x	0.03x	1.27x	1.25x	0.02x	9
2006	1.00x	0.93x	0.07x	0.99x	0.92x	0.07x	10
2007	1.18x	1.13x	0.05x	1.25x	1.10x	0.14x	17
2008	1.32x	1.11x	0.21x	1.28x	0.92x	0.36x	18
2009	1.12x	0.90x	0.22x	1.16x	0.79x	0.37x	10
2010	1.28x	0.89x	0.39x	1.23x	0.73x	0.49x	16
2011	1.25x	0.84x	0.41x	1.21x	0.77x	0.44x	16
2012	1.11x	0.67x	0.44x	1.15x	0.66x	0.49x	20
2013	1.16x	0.45x	0.71x	1.09x	0.59x	0.50x	16
2014	1.12x	0.42x	0.70x	1.12x	0.37x	0.76x	36
2015	0.99x	0.26x	0.73x	1.15x	0.32x	0.83x	23
2016	1.15x	0.35x	0.80x	1.40x	0.71x	0.69x	33
2017	1.05x	0.23x	0.82x	0.96x	0.23x	0.74x	20
2018	1.08x	0.17x	0.91x	1.08x	0.19x	0.90x	27

Source: PitchBook. Geography: North America . Data as of June 30, 2020



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	
Pre-1996			2.47x					2.47x			1
1996											
1997			3.56x					2.20x			3
1998			1.92x					1.92x			3
1999			2.59x					2.47x			1
2000											
2001			2.84x					2.84x			1
2002			2.07x					2.07x			3
2003			2.39x					2.39x			2
2004		1.91x	1.74x	1.60x			1.91x	1.74x	1.60x		4
2005		1.59x	1.29x	1.02x			1.59x	1.29x	1.02x		9
2006	1.52x	1.17x	0.94x	0.76x	0.64x	1.52x	1.11x	0.90x	0.58x	0.49x	10
2007	1.85x	1.43x	1.07x	0.97x	0.90x	1.59x	1.36x	1.01x	0.96x	0.70x	17
2008	2.09x	1.75x	1.04x	0.81x	0.53x	1.82x	1.27x	0.77x	0.52x	0.14x	18
2009	2.21x	1.37x	1.18x	0.58x	0.42x	1.43x	1.08x	0.60x	0.28x	0.19x	10
2010	1.98x	1.77x	1.25x	0.81x	0.42x	1.45x	1.04x	0.66x	0.30x	0.19x	16
2011	1.73x	1.38x	1.24x	1.02x	0.69x	1.31x	0.96x	0.83x	0.39x	0.31x	16
2012	1.67x	1.30x	1.15x	1.01x	0.71x	1.30x	0.85x	0.64x	0.25x	0.11x	20
2013	1.51x	1.40x	1.10x	0.86x	0.67x	1.06x	1.02x	0.43x	0.31x	0.24x	16
2014	1.54x	1.35x	1.14x	0.96x	0.65x	0.70x	0.48x	0.34x	0.15x	0.02x	36
2015	1.54x	1.28x	1.06x	0.93x	0.75x	0.46x	0.41x	0.19x	0.10x	0.01x	23
2016	1.95x	1.34x	1.16x	1.00x	0.70x	1.04x	0.58x	0.30x	0.16x	0.04x	33
2017	1.23x	1.02x	0.86x	0.68x	0.59x	0.47x	0.26x	0.06x	0.00x	0.00x	20
2018	1.54x	1.18x	0.98x	0.83x	0.55x	0.40x	0.19x	0.06x	0.00x	0.00x	27

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Real assets

Quarterly return

Quarter end	1-quarter return
Q1 2001	-2.91%
Q2 2001	6.09%
Q3 2001	-3.58%
Q4 2001	-3.70%
Q1 2002	11.35%
Q2 2002	-0.30%
Q3 2002	-1.87%
Q4 2002	1.14%
Q1 2003	-3.03%
Q2 2003	5.01%
Q3 2003	1.34%
Q4 2003	10.98%
Q1 2004	4.82%
Q2 2004	3.72%
Q3 2004	0.98%
Q4 2004	27.04%
Q1 2005	17.43%
Q2 2005	34.76%
Q3 2005	11.69%
Q4 2005	2.58%
Q1 2006	2.80%
Q2 2006	12.91%
Q3 2006	5.22%
Q4 2006	7.90%

Quarter end	1-quarter return
Q1 2007	3.86%
Q2 2007	2.89%
Q3 2007	6.66%
Q4 2007	10.65%
Q1 2008	1.72%
Q2 2008	2.70%
Q3 2008	7.09%
Q4 2008	-9.14%
Q1 2009	-2.71%
Q2 2009	-0.99%
Q3 2009	3.26%
Q4 2009	3.41%
Q1 2010	-0.26%
Q2 2010	-0.72%
Q3 2010	4.15%
Q4 2010	8.01%
Q1 2011	4.43%
Q2 2011	4.46%
Q3 2011	-1.15%
Q4 2011	4.50%
Q1 2012	1.96%
Q2 2012	-1.44%
Q3 2012	1.38%
Q4 2012	4.09%

Quarter end	1-quarter return
Q1 2013	3.49%
Q2 2013	0.59%
Q3 2013	2.48%
Q4 2013	1.44%
Q1 2014	3.89%
Q2 2014	7.40%
Q3 2014	2.20%
Q4 2014	-5.74%
Q1 2015	-2.08%
Q2 2015	1.97%
Q3 2015	-3.84%
Q4 2015	-0.14%
Q1 2016	-4.34%
Q2 2016	5.60%
Q3 2016	4.26%
Q4 2016	4.38%
Q1 2017	4.21%
Q2 2017	2.35%
Q3 2017	1.56%
Q4 2017	2.92%
Q1 2018	2.04%
Q2 2018	2.51%
Q3 2018	6.31%
Q4 2018	-3.46%

Quarter end	1-quarter return
Q1 2019	0.51%
Q2 2019	-1.07%
Q3 2019	-1.07%
Q4 2019	-1.39%
Q1 2020	-11.96%
Q2 2020	2.44%

Private debt



Private debt

IRR by vintage

Pooled IRRs

IRR hurdle rates

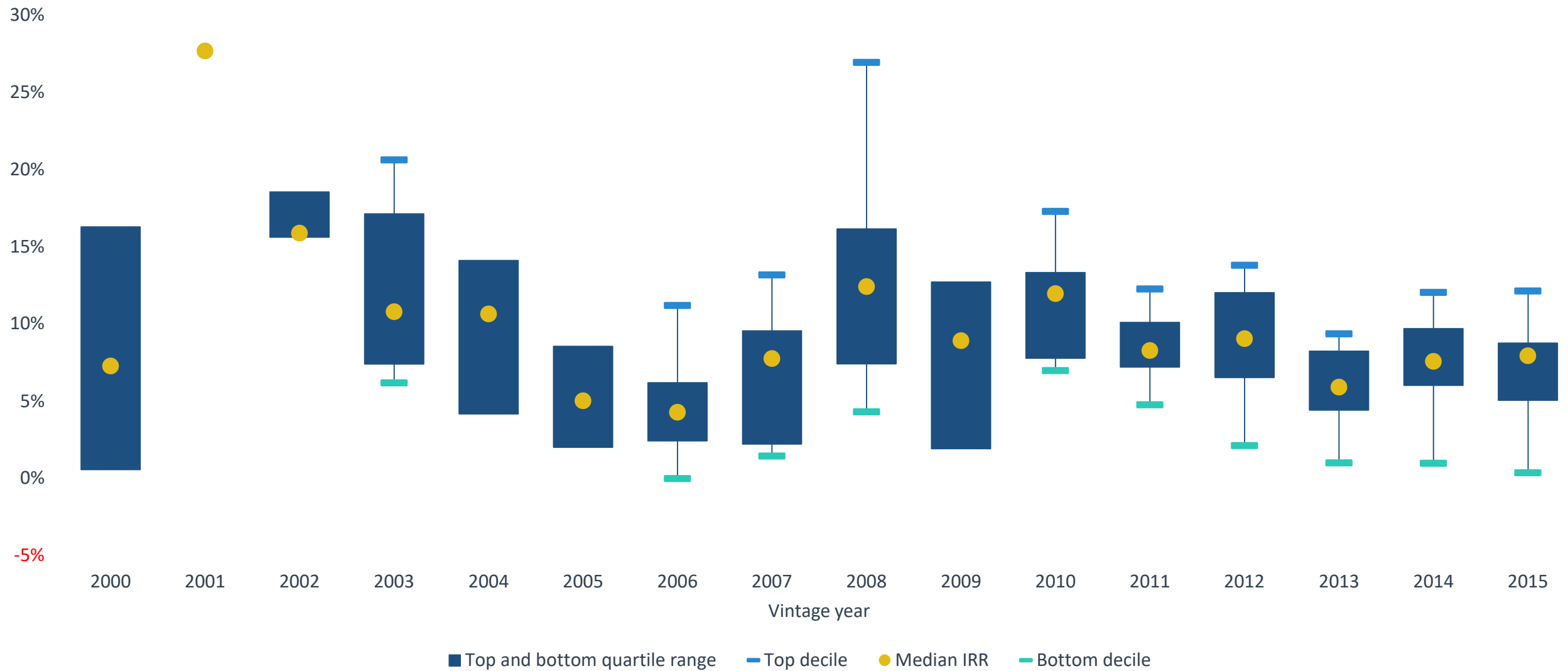
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996					18.20%	13.05%	7.99%		20.76%	8
1996	6.01%	6.01%	1			5.40%				1
1997	10.84%	16.52%	3		35.20%	21.68%	9.80%		22.64%	5
1998						10.66%			6.56%	2
1999	11.72%	11.72%	1			11.96%				1
2000	8.01%	0.83%	4		16.26%	7.25%	0.55%		14.06%	6
2001	27.14%	27.70%	2			27.65%			0.80%	2
2002	17.90%	23.05%	4		18.53%	15.86%	15.60%		28.89%	5
2003	13.72%	14.01%	7	20.60%	17.11%	10.78%	7.39%	6.16%	7.81%	10
2004	6.38%	8.92%	5		14.09%	10.63%	4.16%		11.84%	9
2005	6.05%	5.81%	6		8.53%	5.00%	2.00%		6.75%	7
2006	7.29%	5.85%	10	11.18%	6.18%	4.26%	2.41%	-0.04%	6.96%	12
2007	6.98%	7.33%	18	13.16%	9.53%	7.74%	2.21%	1.42%	6.26%	20
2008	15.30%	14.79%	17	26.91%	16.13%	12.39%	7.40%	4.29%	16.37%	24
2009	7.68%	7.46%	9		12.69%	8.90%	1.90%		9.03%	9
2010	14.81%	11.85%	21	17.26%	13.31%	11.95%	7.77%	6.95%	7.95%	28
2011	8.31%	9.65%	13	12.24%	10.08%	8.26%	7.19%	4.74%	4.19%	19
2012	7.44%	7.14%	22	13.77%	12.00%	9.02%	6.51%	2.10%	5.29%	26
2013	5.74%	6.34%	27	9.34%	8.22%	5.89%	4.40%	0.98%	3.54%	35
2014	5.52%	6.85%	29	12.02%	9.67%	7.55%	6.00%	0.96%	4.75%	33
2015	5.08%	4.98%	41	12.10%	8.74%	7.92%	5.05%	0.35%	7.76%	34
2016	5.64%	5.61%	33	11.65%	9.77%	7.70%	2.77%	-9.09%	35.55%	31
2017	7.43%	7.83%	40	17.00%	12.14%	8.00%	4.43%	-4.88%	10.19%	46
2018	-4.56%	0.51%	39	11.95%	9.26%	6.78%	1.56%	-7.39%	14.49%	42

Source: PitchBook. Geography: North America. Data as of June 30, 2020



Private debt

IRRs by vintage





Private debt

PMEs by vintage

S&P 500 index

Bloomberg Barclays US Corporate High Yield Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	6.01%	8.54%	1.36	6.01%	6.65%	1.05	1
1997	10.84%	7.84%	1.55	10.84%	6.45%	1.37	3
1998							
1999	11.72%	6.06%	1.79	11.72%	6.42%	1.20	1
2000	8.01%	5.68%	1.19	8.01%	6.66%	0.94	4
2001	27.14%	6.52%	1.62	27.14%	7.02%	1.44	2
2002	17.90%	7.50%	1.32	17.90%	7.46%	1.22	4
2003	13.72%	9.57%	1.35	13.72%	7.79%	1.26	7
2004	6.38%	8.23%	1.05	6.38%	6.73%	0.97	5
2005	6.05%	8.30%	1.16	6.05%	6.56%	0.91	6
2006	7.29%	8.21%	0.95	7.29%	6.73%	0.88	10
2007	6.98%	7.85%	0.99	6.98%	6.35%	0.86	18
2008	15.30%	8.82%	1.10	15.30%	7.10%	1.01	17
2009	7.68%	14.51%	0.78	7.68%	10.03%	0.93	9
2010	14.81%	12.10%	1.00	14.81%	6.44%	1.23	21
2011	8.31%	11.46%	0.82	8.31%	5.46%	1.06	13
2012	7.44%	12.17%	0.82	7.44%	5.39%	1.07	22
2013	5.74%	11.81%	0.85	5.74%	4.32%	1.02	27
2014	5.52%	10.01%	0.85	5.52%	3.84%	1.03	29
2015	5.08%	9.12%	0.90	5.08%	4.14%	1.02	41
2016	5.64%	12.30%	0.96	5.64%	6.81%	1.04	33
2017	7.43%	9.53%	1.00	7.43%	3.04%	1.07	40
2018	-4.56%	5.24%	0.91	-4.56%	2.01%	0.95	39

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Private debt

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996							
1996	1.45x	1.45x	0.00x	1.45x	1.45x	0.00x	1
1997	1.70x	1.69x	0.01x	2.20x	2.18x	0.02x	3
1998							
1999	1.49x	1.49x	0.00x	1.49x	1.49x	0.00x	1
2000	1.26x	1.26x	0.00x	1.03x	1.03x	0.00x	4
2001	2.16x	2.16x	0.00x	2.36x	2.36x	0.00x	2
2002	1.78x	1.78x	0.00x	1.88x	1.88x	0.00x	4
2003	1.89x	1.79x	0.10x	2.00x	1.91x	0.09x	7
2004	1.27x	1.25x	0.01x	1.40x	1.39x	0.01x	5
2005	1.36x	1.34x	0.02x	1.30x	1.26x	0.04x	6
2006	1.58x	1.40x	0.18x	1.41x	1.23x	0.19x	10
2007	1.35x	1.32x	0.03x	1.35x	1.33x	0.03x	18
2008	1.73x	1.71x	0.01x	1.68x	1.67x	0.02x	17
2009	1.36x	1.28x	0.08x	1.30x	1.19x	0.11x	9
2010	1.54x	1.47x	0.07x	1.47x	1.38x	0.09x	21
2011	1.39x	1.24x	0.15x	1.43x	1.26x	0.17x	13
2012	1.33x	1.08x	0.25x	1.30x	0.98x	0.32x	22
2013	1.19x	0.88x	0.31x	1.23x	0.85x	0.38x	27
2014	1.21x	0.64x	0.57x	1.22x	0.70x	0.52x	29
2015	1.13x	0.47x	0.66x	1.13x	0.49x	0.64x	41
2016	1.09x	0.30x	0.79x	1.09x	0.36x	0.74x	33
2017	1.11x	0.24x	0.86x	1.11x	0.29x	0.82x	40
2018	0.96x	0.14x	0.81x	1.01x	0.20x	0.81x	39

Source: PitchBook. Geography: North America. Data as of June 30, 2020



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	
Pre-1996											
1996			1.45x					1.45x			1
1997			1.49x					1.49x			3
1998											
1999			1.49x					1.49x			1
2000		1.32x	1.09x	0.79x			1.32x	1.09x	0.79x		4
2001			2.38x					2.38x			2
2002		1.89x	1.71x	1.70x			1.89x	1.71x	1.70x		4
2003		1.98x	1.58x	1.46x			1.77x	1.49x	1.43x		7
2004		1.65x	1.64x	1.14x			1.65x	1.63x	1.14x		5
2005		1.50x	1.38x	1.26x			1.50x	1.38x	1.12x		6
2006	1.90x	1.35x	1.23x	1.11x	1.04x	1.65x	1.33x	1.18x	1.11x	1.04x	10
2007	1.70x	1.55x	1.32x	1.20x	1.03x	1.70x	1.55x	1.26x	1.13x	1.03x	18
2008	2.47x	1.82x	1.52x	1.32x	1.17x	2.44x	1.72x	1.51x	1.29x	1.17x	17
2009		1.54x	1.40x	1.08x			1.54x	1.13x	0.96x		9
2010	1.81x	1.67x	1.40x	1.26x	1.19x	1.71x	1.48x	1.39x	1.18x	1.10x	21
2011	1.76x	1.56x	1.37x	1.26x	1.13x	1.63x	1.45x	1.18x	1.05x	1.02x	13
2012	1.60x	1.52x	1.30x	1.12x	1.04x	1.36x	1.31x	1.08x	0.78x	0.44x	22
2013	1.41x	1.32x	1.21x	1.12x	1.02x	1.12x	1.01x	0.94x	0.74x	0.55x	27
2014	1.42x	1.28x	1.19x	1.12x	1.05x	1.06x	0.89x	0.72x	0.49x	0.29x	29
2015	1.27x	1.24x	1.19x	1.09x	0.96x	0.78x	0.65x	0.48x	0.29x	0.20x	41
2016	1.26x	1.16x	1.13x	1.02x	0.93x	0.61x	0.45x	0.30x	0.12x	0.00x	33
2017	1.27x	1.16x	1.10x	1.05x	0.97x	0.59x	0.43x	0.24x	0.15x	0.08x	40
2018	1.12x	1.09x	1.05x	0.95x	0.90x	0.42x	0.26x	0.12x	0.02x	0.00x	39

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Private debt

Quarterly return

Quarter end	1-quarter return
Q1 2001	1.98%
Q2 2001	5.82%
Q3 2001	1.02%
Q4 2001	-0.74%
Q1 2002	3.06%
Q2 2002	1.25%
Q3 2002	-1.92%
Q4 2002	1.32%
Q1 2003	3.15%
Q2 2003	7.64%
Q3 2003	-2.31%
Q4 2003	10.43%
Q1 2004	7.66%
Q2 2004	8.02%
Q3 2004	4.51%
Q4 2004	18.16%
Q1 2005	5.51%
Q2 2005	-4.95%
Q3 2005	6.46%
Q4 2005	2.64%
Q1 2006	3.79%
Q2 2006	6.27%
Q3 2006	2.65%
Q4 2006	9.87%

Quarter end	1-quarter return
Q1 2007	3.94%
Q2 2007	9.17%
Q3 2007	2.68%
Q4 2007	-0.22%
Q1 2008	-1.82%
Q2 2008	-1.44%
Q3 2008	-8.11%
Q4 2008	-17.68%
Q1 2009	-5.25%
Q2 2009	10.66%
Q3 2009	12.00%
Q4 2009	6.84%
Q1 2010	6.44%
Q2 2010	1.88%
Q3 2010	3.12%
Q4 2010	8.13%
Q1 2011	2.87%
Q2 2011	3.22%
Q3 2011	-4.95%
Q4 2011	1.78%
Q1 2012	-1.45%
Q2 2012	2.29%
Q3 2012	5.37%
Q4 2012	2.74%

Quarter end	1-quarter return
Q1 2013	4.73%
Q2 2013	4.23%
Q3 2013	3.14%
Q4 2013	2.19%
Q1 2014	1.11%
Q2 2014	3.23%
Q3 2014	3.19%
Q4 2014	1.10%
Q1 2015	2.22%
Q2 2015	3.37%
Q3 2015	-1.48%
Q4 2015	-0.54%
Q1 2016	0.92%
Q2 2016	1.28%
Q3 2016	4.24%
Q4 2016	3.17%
Q1 2017	3.19%
Q2 2017	1.24%
Q3 2017	1.57%
Q4 2017	5.26%
Q1 2018	2.18%
Q2 2018	3.93%
Q3 2018	-0.05%
Q4 2018	-0.56%

Quarter end	1-quarter return
Q1 2019	2.13%
Q2 2019	1.80%
Q3 2019	1.41%
Q4 2019	1.94%
Q1 2020	-8.26%
Q2 2020	1.36%

Funds of funds



Funds of funds

IRR by vintage

Pooled IRRs

IRR hurdle rates

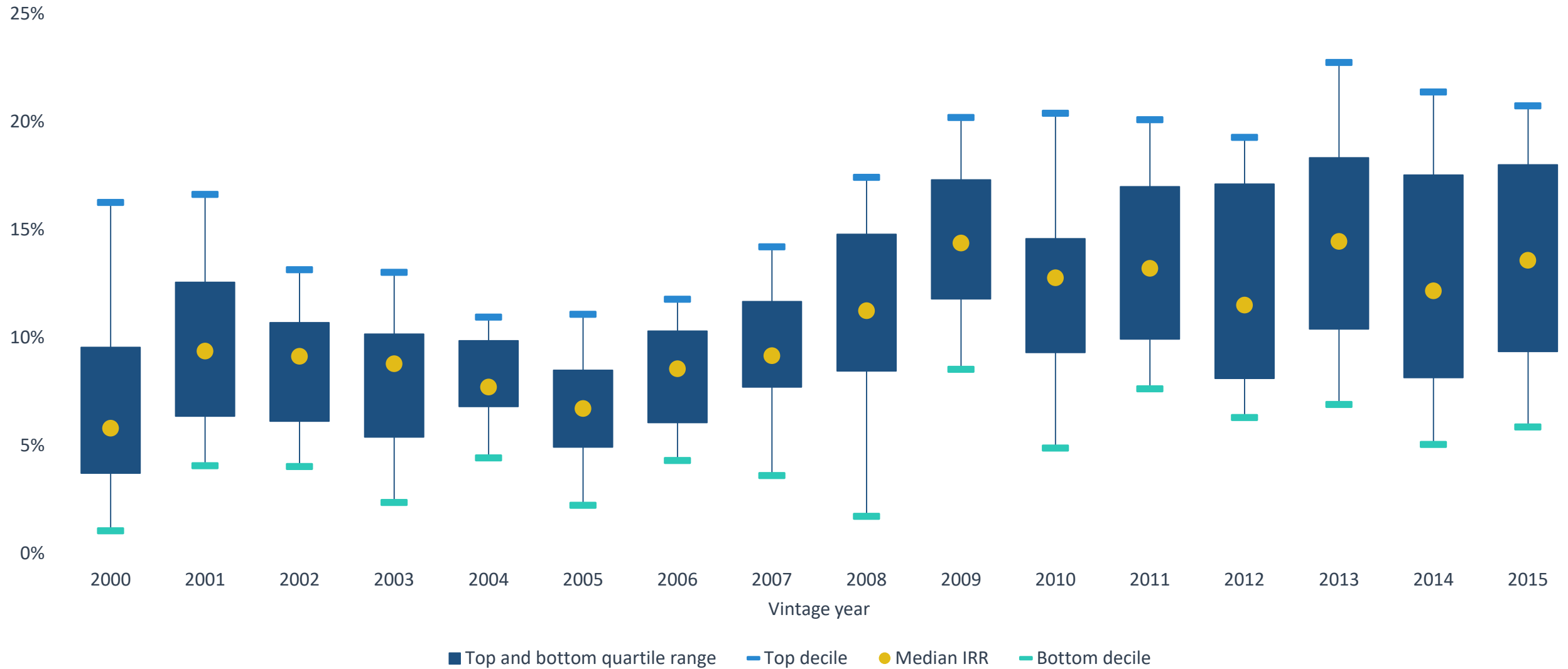
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996					22.90%	13.84%	1.84%		18.94%	9
1996						14.24%				1
1997	-13.55%	-13.55%	1		4.10%	-0.71%	-4.73%		11.81%	4
1998	4.05%	4.05%	1		7.52%	7.24%	2.97%		8.25%	7
1999	5.65%	5.26%	7	13.85%	11.60%	3.90%	2.50%	-1.65%	6.24%	17
2000	5.64%	6.39%	9	16.25%	9.54%	5.80%	3.71%	1.04%	5.64%	19
2001	6.91%	6.55%	6	16.62%	12.55%	9.37%	6.35%	4.06%	5.93%	14
2002	8.01%	6.28%	4	13.13%	10.68%	9.13%	6.13%	4.02%	4.18%	14
2003	7.76%	5.73%	6	13.01%	10.16%	8.78%	5.39%	2.36%	4.42%	15
2004	8.25%	8.04%	5	10.94%	9.85%	7.70%	6.80%	4.42%	3.80%	29
2005	8.13%	6.77%	14	11.07%	8.48%	6.71%	4.92%	2.22%	13.91%	38
2006	8.37%	8.07%	30	11.77%	10.30%	8.55%	6.06%	4.30%	3.32%	54
2007	10.85%	9.86%	25	14.19%	11.66%	9.15%	7.70%	3.60%	5.33%	53
2008	11.04%	11.26%	32	17.41%	14.78%	11.24%	8.45%	1.72%	5.96%	55
2009	13.98%	14.00%	19	20.19%	17.30%	14.37%	11.79%	8.52%	4.89%	24
2010	12.37%	12.45%	19	20.38%	14.57%	12.76%	9.30%	4.88%	8.38%	29
2011	13.46%	15.17%	37	20.08%	16.98%	13.20%	9.92%	7.62%	6.95%	45
2012	13.06%	14.01%	33	19.26%	17.10%	11.50%	8.10%	6.29%	6.49%	29
2013	13.46%	13.78%	35	22.73%	18.32%	14.44%	10.39%	6.90%	6.52%	27
2014	13.60%	14.53%	34	21.36%	17.53%	12.16%	8.14%	5.04%	6.14%	40
2015	16.06%	14.01%	37	20.72%	18.00%	13.57%	9.35%	5.85%	6.38%	39
2016	15.87%	15.24%	29	19.40%	16.41%	13.31%	9.11%	4.71%	7.26%	28
2017	10.51%	11.70%	19	24.33%	21.70%	12.10%	7.80%	3.70%	8.99%	21
2018	5.24%	4.91%	24	20.48%	14.29%	9.30%	-0.50%	-2.54%	12.35%	17

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Funds of funds

IRRs by vintage





Funds of funds

PMEs by vintage

S&P 500 index

Russell 3000 Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996							
1997	-13.55%	7.84%	0.38	-13.55%	7.91%	0.36	1
1998	4.05%	6.85%	1.12	4.05%	6.95%	1.07	1
1999	5.65%	6.06%	1.06	5.65%	6.36%	1.03	7
2000	5.64%	5.68%	0.99	5.64%	5.84%	0.97	9
2001	6.91%	6.52%	1.00	6.91%	6.72%	0.97	6
2002	8.01%	7.50%	1.06	8.01%	7.66%	1.04	4
2003	7.76%	9.57%	1.05	7.76%	9.71%	1.04	6
2004	8.25%	8.23%	1.04	8.25%	8.24%	1.03	5
2005	8.13%	8.30%	1.02	8.13%	8.28%	1.01	14
2006	8.37%	8.21%	0.90	8.37%	8.04%	0.90	30
2007	10.85%	7.85%	0.97	10.85%	7.67%	0.97	25
2008	11.04%	8.82%	0.92	11.04%	8.71%	0.93	32
2009	13.98%	14.51%	1.02	13.98%	14.40%	1.03	19
2010	12.37%	12.10%	0.99	12.37%	11.82%	1.00	19
2011	13.46%	11.46%	1.05	13.46%	10.99%	1.07	37
2012	13.06%	12.17%	1.09	13.06%	11.73%	1.11	33
2013	13.46%	11.81%	1.10	13.46%	11.28%	1.13	35
2014	13.60%	10.01%	1.13	13.60%	9.24%	1.15	34
2015	16.06%	9.12%	1.16	16.06%	8.42%	1.18	37
2016	15.87%	12.30%	1.15	15.87%	11.89%	1.17	29
2017	10.51%	9.53%	1.05	10.51%	8.63%	1.07	19
2018	5.24%	5.24%	1.01	5.24%	4.24%	1.02	24

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Funds of funds

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996							
1996							
1997	0.42x	0.42x	0.00x	0.42x	0.42x	0.00x	1
1998	1.22x	1.22x	0.00x	1.22x	1.22x	0.00x	1
1999	1.37x	1.34x	0.02x	1.35x	1.31x	0.04x	7
2000	1.34x	1.31x	0.03x	1.38x	1.35x	0.03x	9
2001	1.56x	1.37x	0.18x	1.52x	1.28x	0.24x	6
2002	1.46x	1.41x	0.05x	1.34x	1.31x	0.03x	4
2003	1.61x	1.52x	0.09x	1.41x	1.33x	0.08x	6
2004	1.59x	1.38x	0.21x	1.61x	1.41x	0.20x	5
2005	1.54x	1.41x	0.13x	1.46x	1.33x	0.14x	14
2006	1.64x	1.36x	0.28x	1.63x	1.40x	0.23x	30
2007	1.80x	1.40x	0.40x	1.66x	1.36x	0.30x	25
2008	1.70x	1.23x	0.47x	1.78x	1.21x	0.57x	32
2009	1.91x	1.26x	0.65x	1.90x	1.36x	0.54x	19
2010	1.73x	1.09x	0.64x	1.77x	1.01x	0.77x	19
2011	1.72x	0.83x	0.89x	1.90x	0.87x	1.02x	37
2012	1.69x	0.60x	1.09x	1.72x	0.67x	1.06x	33
2013	1.54x	0.46x	1.09x	1.58x	0.45x	1.13x	35
2014	1.55x	0.28x	1.27x	1.60x	0.39x	1.21x	34
2015	1.42x	0.25x	1.17x	1.40x	0.25x	1.15x	37
2016	1.36x	0.19x	1.17x	1.34x	0.18x	1.16x	29
2017	1.17x	0.09x	1.08x	1.20x	0.08x	1.12x	19
2018	1.05x	0.06x	0.99x	1.05x	0.07x	0.98x	24

Source: PitchBook. Geography: North America. Data as of June 30, 2020



Funds of funds

Multiples by vintage

TVPI

DPI

Vintage year	Top decile	Top quartile	Median TVPI	Bottom quartile	Bottom decile	Top decile	Top quartile	Median DPI	Bottom quartile	Bottom decile	Number of funds
Pre-1996											
1996											
1997			0.42x					0.42x			1
1998			1.22x					1.22x			1
1999		1.55x	1.29x	1.17x			1.54x	1.28x	1.14x		7
2000		1.57x	1.50x	1.23x			1.57x	1.48x	1.15x		9
2001		1.60x	1.50x	1.44x			1.55x	1.38x	1.15x		6
2002		1.49x	1.42x	1.28x			1.43x	1.40x	1.28x		4
2003		1.62x	1.53x	1.27x			1.48x	1.46x	1.22x		6
2004		1.69x	1.54x	1.38x			1.41x	1.36x	1.33x		5
2005	1.79x	1.67x	1.49x	1.38x	1.06x	1.67x	1.53x	1.38x	1.24x	0.78x	14
2006	1.90x	1.80x	1.64x	1.47x	1.33x	1.78x	1.51x	1.32x	1.24x	1.15x	30
2007	2.01x	1.88x	1.62x	1.45x	1.25x	1.66x	1.51x	1.38x	1.28x	0.93x	25
2008	2.29x	2.01x	1.71x	1.54x	1.15x	1.66x	1.42x	1.26x	1.00x	0.66x	32
2009	2.44x	2.05x	1.87x	1.66x	1.53x	1.94x	1.57x	1.25x	1.06x	0.97x	19
2010	2.49x	1.86x	1.75x	1.49x	1.25x	1.36x	1.17x	1.02x	0.80x	0.60x	19
2011	2.62x	2.10x	1.73x	1.42x	1.19x	1.17x	1.04x	0.87x	0.77x	0.44x	37
2012	2.44x	2.12x	1.50x	1.37x	1.24x	1.25x	0.87x	0.54x	0.35x	0.25x	33
2013	2.20x	1.82x	1.50x	1.34x	0.98x	0.81x	0.64x	0.36x	0.20x	0.15x	35
2014	2.11x	1.99x	1.50x	1.19x	1.14x	0.87x	0.35x	0.27x	0.17x	0.10x	34
2015	1.73x	1.54x	1.43x	1.17x	1.10x	0.53x	0.30x	0.19x	0.06x	0.02x	37
2016	1.63x	1.47x	1.28x	1.13x	1.11x	0.47x	0.19x	0.08x	0.04x	0.01x	29
2017	1.40x	1.26x	1.18x	1.11x	1.06x	0.16x	0.14x	0.05x	0.01x	0.00x	19
2018	1.33x	1.11x	1.02x	0.98x	0.92x	0.14x	0.02x	0.00x	0.00x	0.00x	24

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Funds of funds

Quarterly return

Quarter end	1-quarter return
Q1 2001	-13.79%
Q2 2001	-3.91%
Q3 2001	-10.62%
Q4 2001	-13.81%
Q1 2002	-7.72%
Q2 2002	-9.92%
Q3 2002	-10.01%
Q4 2002	-5.69%
Q1 2003	-10.36%
Q2 2003	3.22%
Q3 2003	0.52%
Q4 2003	-8.56%
Q1 2004	3.82%
Q2 2004	1.44%
Q3 2004	4.27%
Q4 2004	6.18%
Q1 2005	1.63%
Q2 2005	6.52%
Q3 2005	5.04%
Q4 2005	7.91%
Q1 2006	3.76%
Q2 2006	5.42%
Q3 2006	3.45%
Q4 2006	8.57%

Quarter end	1-quarter return
Q1 2007	-1.17%
Q2 2007	11.20%
Q3 2007	4.56%
Q4 2007	3.78%
Q1 2008	1.79%
Q2 2008	-1.25%
Q3 2008	-5.11%
Q4 2008	-10.46%
Q1 2009	-1.28%
Q2 2009	-2.91%
Q3 2009	4.95%
Q4 2009	2.75%
Q1 2010	5.99%
Q2 2010	1.38%
Q3 2010	2.42%
Q4 2010	4.35%
Q1 2011	3.17%
Q2 2011	5.55%
Q3 2011	-0.65%
Q4 2011	0.49%
Q1 2012	4.93%
Q2 2012	1.59%
Q3 2012	-0.55%
Q4 2012	3.68%

Quarter end	1-quarter return
Q1 2013	2.23%
Q2 2013	3.42%
Q3 2013	4.03%
Q4 2013	5.12%
Q1 2014	4.20%
Q2 2014	4.91%
Q3 2014	2.38%
Q4 2014	4.83%
Q1 2015	2.57%
Q2 2015	5.02%
Q3 2015	1.71%
Q4 2015	1.39%
Q1 2016	0.83%
Q2 2016	0.74%
Q3 2016	3.26%
Q4 2016	1.47%
Q1 2017	3.69%
Q2 2017	2.80%
Q3 2017	3.03%
Q4 2017	2.95%
Q1 2018	4.60%
Q2 2018	6.15%
Q3 2018	3.17%
Q4 2018	2.20%

Quarter end	1-quarter return
Q1 2019	3.45%
Q2 2019	4.25%
Q3 2019	2.38%
Q4 2019	1.30%
Q1 2020	-1.46%
Q2 2020	4.33%

Secondaries



Secondaries

IRR by vintage

Pooled IRRs

IRR hurdle rates

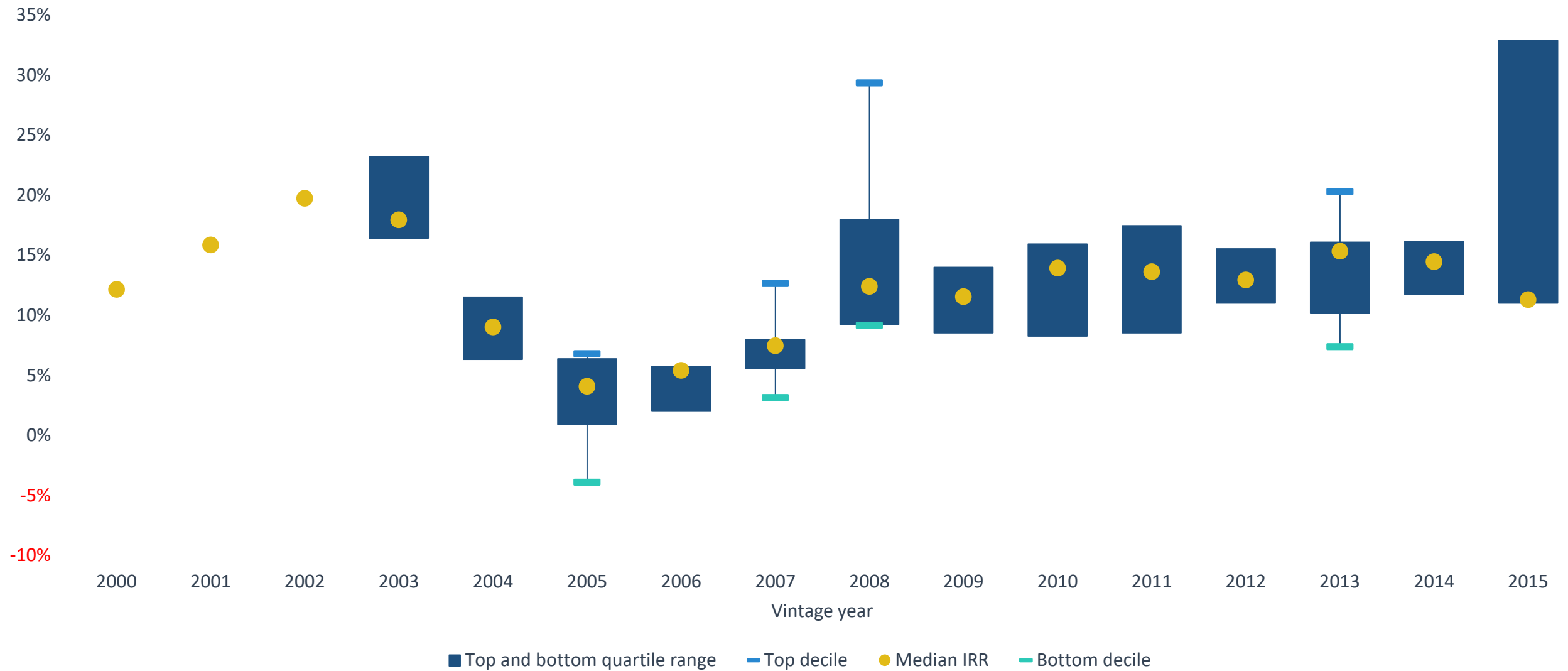
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996					33.58%	28.69%	18.86%		13.64%	9
1996	18.56%	18.56%	1			31.48%			16.00%	3
1997	16.60%	16.60%	1			9.61%			9.89%	2
1998	7.49%	6.88%	2		7.23%	5.05%	4.23%		4.70%	6
1999	3.07%	1.71%	2		11.85%	8.13%	0.85%		8.24%	7
2000	11.98%	11.82%	2			12.14%			11.40%	2
2001	14.20%	16.13%	2			15.83%			5.22%	2
2002	18.89%	19.88%	3			19.72%			1.82%	3
2003	37.92%	37.92%	1		23.19%	17.93%	16.40%		8.71%	5
2004	10.70%	9.46%	5		11.49%	9.00%	6.30%		12.58%	5
2005	5.87%	4.73%	8	6.77%	6.35%	4.06%	0.90%	-3.92%	4.87%	13
2006	5.40%	6.30%	5		5.73%	5.40%	2.04%		4.89%	5
2007	6.12%	9.17%	9	12.62%	7.94%	7.45%	5.56%	3.12%	9.34%	10
2008	12.18%	12.78%	11	29.32%	17.95%	12.39%	9.22%	9.14%	10.15%	11
2009	11.35%	9.98%	8		13.97%	11.54%	8.52%		8.19%	6
2010	13.51%	16.15%	2		15.91%	13.90%	8.24%		4.77%	8
2011	14.48%	12.78%	7		17.45%	13.60%	8.52%		4.87%	7
2012	10.71%	10.60%	10		15.51%	12.92%	11.00%		4.86%	9
2013	9.04%	9.97%	8	20.27%	16.06%	15.32%	10.17%	7.37%	13.85%	10
2014	14.37%	20.44%	6		16.13%	14.45%	11.72%		8.64%	6
2015	12.22%	22.93%	4		32.86%	11.29%	11.00%		15.93%	5
2016	17.99%	21.83%	13	43.27%	34.61%	22.05%	15.56%	11.63%	14.02%	14
2017	16.21%	10.21%	10	36.34%	19.14%	14.47%	11.05%	9.52%	13.70%	12
2018	30.65%	21.54%	8		38.61%	24.02%	11.54%		42.03%	8

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Secondaries

IRRs by vintage





Secondaries

PMEs by vintage

S&P 500 index

Russell 3000 Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	18.56%	8.54%	1.28	18.56%	8.53%	1.26	1
1997	16.60%	7.84%	1.36	16.60%	7.91%	1.35	1
1998	7.49%	6.85%	1.27	7.49%	6.95%	1.23	2
1999	3.07%	6.06%	1.09	3.07%	6.36%	1.06	2
2000	11.98%	5.68%	1.27	11.98%	5.84%	1.24	2
2001	14.20%	6.52%	1.20	14.20%	6.72%	1.18	2
2002	18.89%	7.50%	1.31	18.89%	7.66%	1.29	3
2003	37.92%	9.57%	1.56	37.92%	9.71%	1.54	1
2004	10.70%	8.23%	1.14	10.70%	8.24%	1.13	5
2005	5.87%	8.30%	0.92	5.87%	8.28%	0.92	8
2006	5.40%	8.21%	0.91	5.40%	8.04%	0.90	5
2007	6.12%	7.85%	0.85	6.12%	7.67%	0.84	9
2008	12.18%	8.82%	0.93	12.18%	8.71%	0.93	11
2009	11.35%	14.51%	0.90	11.35%	14.40%	0.90	8
2010	13.51%	12.10%	0.99	13.51%	11.82%	0.99	2
2011	14.48%	11.46%	1.01	14.48%	10.99%	1.02	7
2012	10.71%	12.17%	0.93	10.71%	11.73%	0.94	10
2013	9.04%	11.81%	0.95	9.04%	11.28%	0.97	8
2014	14.37%	10.01%	1.08	14.37%	9.24%	1.09	6
2015	12.22%	9.12%	1.05	12.22%	8.42%	1.06	4
2016	17.99%	12.30%	1.16	17.99%	11.89%	1.18	13
2017	16.21%	9.53%	1.11	16.21%	8.63%	1.13	10
2018	30.65%	5.24%	1.24	30.65%	4.24%	1.26	8

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Secondaries

Multiples by vintage

Pooled multiples

Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996							
1996	1.55x	1.55x	0.00x	1.55x	1.55x	0.00x	1
1997	1.59x	1.59x	0.00x	1.59x	1.59x	0.00x	1
1998	1.31x	1.31x	0.00x	1.30x	1.30x	0.00x	2
1999	1.11x	1.10x	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	0.01x	2
2002	1.63x	1.62x	0.01x	1.58x	1.58x	0.00x	3
2003	1.79x	1.79x	0.00x	1.79x	1.79x	0.00x	1
2004	1.46x	1.40x	0.06x	1.37x	1.33x	0.05x	5
2005	1.32x	1.28x	0.04x	1.24x	1.19x	0.04x	8
2006	1.33x	1.25x	0.08x	1.37x	1.30x	0.07x	5
2007	1.27x	1.17x	0.10x	1.41x	1.34x	0.07x	9
2008	1.56x	1.48x	0.08x	1.57x	1.49x	0.08x	11
2009	1.53x	1.38x	0.15x	1.43x	1.25x	0.18x	8
2010	1.48x	1.36x	0.12x	1.54x	1.44x	0.10x	2
2011	1.54x	1.32x	0.22x	1.45x	1.20x	0.26x	7
2012	1.40x	1.05x	0.35x	1.38x	1.01x	0.36x	10
2013	1.36x	0.87x	0.49x	1.36x	0.81x	0.55x	8
2014	1.32x	0.71x	0.62x	1.65x	0.80x	0.85x	6
2015	1.28x	0.68x	0.60x	1.34x	1.02x	0.33x	4
2016	1.35x	0.40x	0.95x	1.43x	0.50x	0.93x	13
2017	1.20x	0.29x	0.91x	1.14x	0.32x	0.82x	10
2018	1.29x	0.28x	1.01x	1.21x	0.23x	0.99x	8

Source: PitchBook. Geography: North America. Data as of June 30, 2020



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	
Pre-1996											
1996			1.55x					1.55x			1
1997			1.59x					1.59x			1
1998			1.30x					1.30x			2
1999			1.06x					1.05x			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		1.63x	1.47x	1.27x			1.54x	1.39x	1.22x		5
2005		1.34x	1.29x	1.23x			1.32x	1.26x	1.23x		8
2006		1.43x	1.30x	1.20x			1.32x	1.28x	1.15x		5
2007		1.40x	1.39x	1.34x			1.35x	1.34x	1.31x		9
2008	1.76x	1.61x	1.51x	1.37x	1.37x	1.68x	1.47x	1.44x	1.30x	1.22x	11
2009		1.67x	1.49x	1.25x			1.47x	1.39x	1.13x		8
2010			1.53x					1.43x			2
2011		1.59x	1.47x	1.32x			1.34x	1.10x	1.09x		7
2012	1.53x	1.49x	1.36x	1.30x	1.26x	1.22x	1.16x	1.06x	0.90x	0.68x	10
2013		1.51x	1.37x	1.22x			0.85x	0.77x	0.70x		8
2014		1.52x	1.36x	1.24x			0.95x	0.80x	0.72x		6
2015		1.38x	1.33x	1.30x			1.38x	1.05x	0.67x		4
2016	1.69x	1.53x	1.30x	1.27x	1.22x	0.96x	0.61x	0.40x	0.31x	0.13x	13
2017	1.26x	1.22x	1.15x	1.07x	1.03x	0.41x	0.36x	0.28x	0.17x	0.10x	10
2018		1.37x	1.25x	1.18x			0.30x	0.27x	0.10x		8

Source: PitchBook. Geography: North America . Data as of June 30, 2020



Secondaries

Quarterly return

Quarter end	1-quarter return
Q1 2001	-4.58%
Q2 2001	-2.62%
Q3 2001	1.63%
Q4 2001	-3.31%
Q1 2002	1.88%
Q2 2002	2.27%
Q3 2002	-5.39%
Q4 2002	-5.13%
Q1 2003	-5.09%
Q2 2003	-0.94%
Q3 2003	1.00%
Q4 2003	16.40%
Q1 2004	-4.32%
Q2 2004	6.30%
Q3 2004	3.41%
Q4 2004	6.56%
Q1 2005	6.24%
Q2 2005	5.59%
Q3 2005	5.55%
Q4 2005	2.08%
Q1 2006	8.46%
Q2 2006	4.97%
Q3 2006	5.63%
Q4 2006	5.45%

Quarter end	1-quarter return
Q1 2007	2.95%
Q2 2007	13.32%
Q3 2007	9.34%
Q4 2007	3.24%
Q1 2008	2.83%
Q2 2008	-4.08%
Q3 2008	4.74%
Q4 2008	-6.84%
Q1 2009	-6.33%
Q2 2009	-4.28%
Q3 2009	-0.73%
Q4 2009	-0.90%
Q1 2010	1.55%
Q2 2010	9.77%
Q3 2010	5.29%
Q4 2010	6.29%
Q1 2011	7.06%
Q2 2011	4.31%
Q3 2011	4.07%
Q4 2011	1.30%
Q1 2012	1.60%
Q2 2012	3.80%
Q3 2012	2.91%
Q4 2012	2.51%

Quarter end	1-quarter return
Q1 2013	2.72%
Q2 2013	3.00%
Q3 2013	3.73%
Q4 2013	3.31%
Q1 2014	3.97%
Q2 2014	3.69%
Q3 2014	3.89%
Q4 2014	2.81%
Q1 2015	1.44%
Q2 2015	6.50%
Q3 2015	4.33%
Q4 2015	-0.15%
Q1 2016	0.41%
Q2 2016	1.25%
Q3 2016	1.52%
Q4 2016	3.05%
Q1 2017	2.93%
Q2 2017	3.31%
Q3 2017	5.22%
Q4 2017	3.79%
Q1 2018	2.99%
Q2 2018	5.94%
Q3 2018	3.99%
Q4 2018	2.66%

Quarter end	1-quarter return
Q1 2019	4.03%
Q2 2019	2.02%
Q3 2019	2.33%
Q4 2019	5.60%
Q1 2020	-4.37%
Q2 2020	0.54%



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