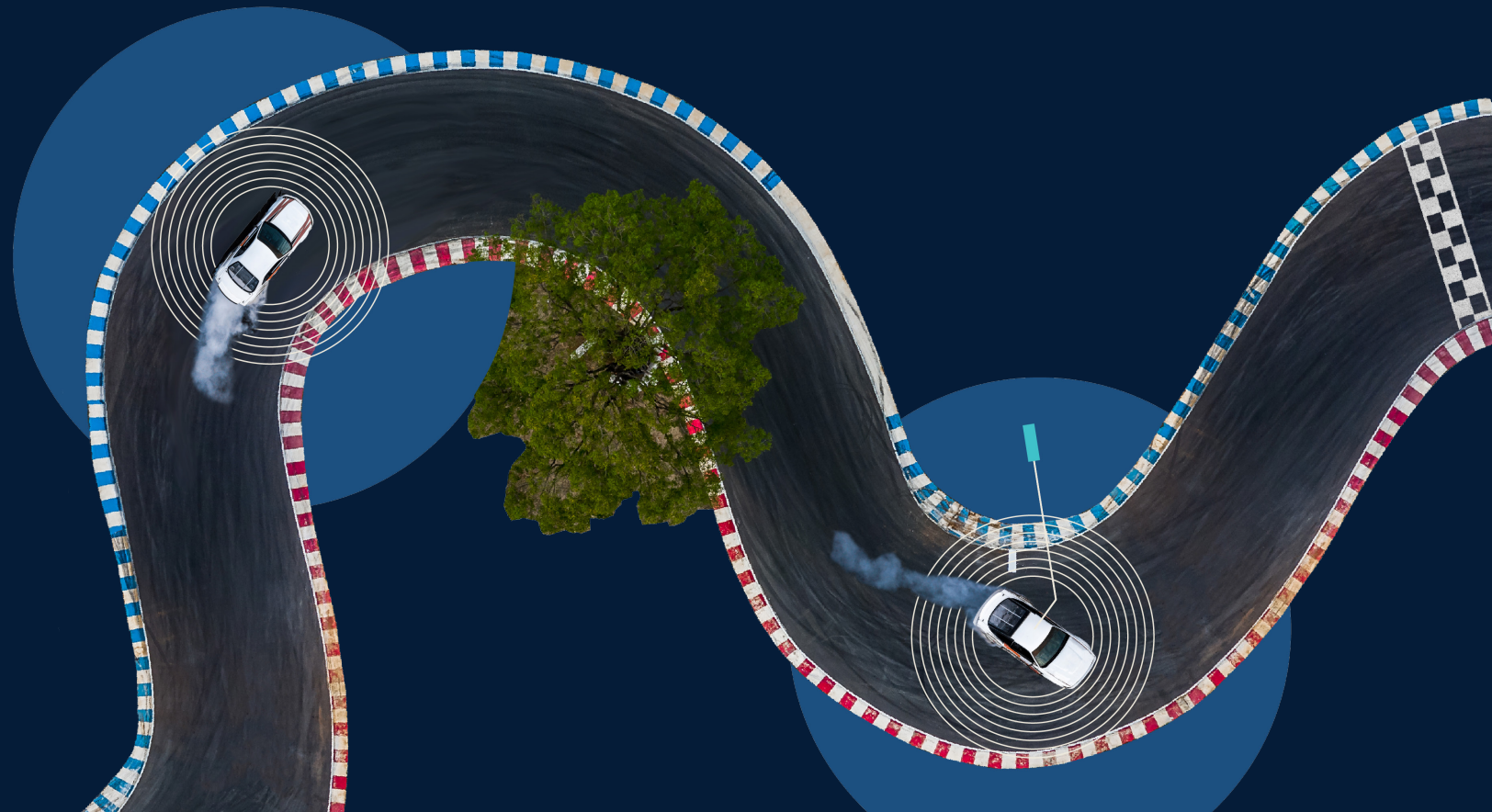




GLOBAL

# PitchBook Benchmarks

AS OF Q2 2022





# 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](mailto:benchmarks@pitchbook.com).

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

<a href="#">Global</a>	<a href="#">Europe</a>	<a href="#">North America</a>	<a href="#">Private equity</a>
<a href="#">Venture capital</a>	<a href="#">Real estate</a>	<a href="#">Real assets</a>	<a href="#">Private debt</a>
<a href="#">Funds of funds</a>	<a href="#">Secondaries</a>		

### Additional PitchBook Benchmark PDFs:

<a href="#">Global</a>	<a href="#">Europe</a>	<a href="#">North America</a>	<a href="#">Private equity</a>
<a href="#">Venture capital</a>	<a href="#">Real estate</a>	<a href="#">Real assets</a>	<a href="#">Private debt</a>
<a href="#">Funds of funds</a>	<a href="#">Secondaries</a>		



# 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.

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.

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

**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.

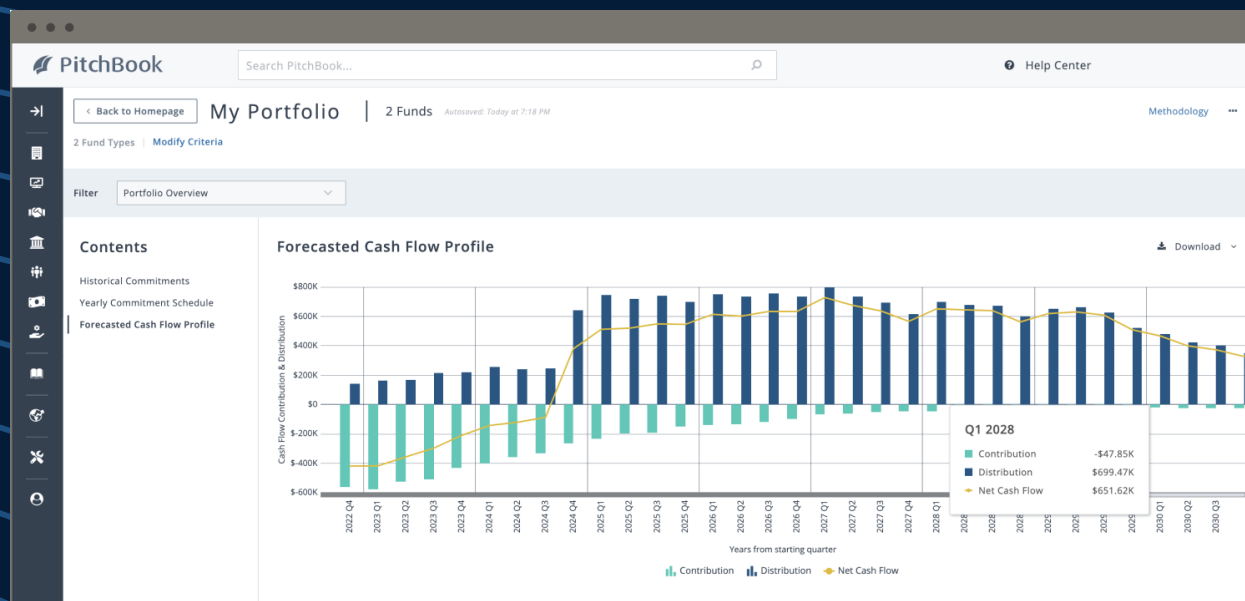
**Pooled calculations:** Pooled calculations combine cashflow data from a group of funds to create a capital-weighted IRR value. All cash flows and NAVs for each fund in the sample group (e.g. all private capital funds, 2004 vintage VC funds, etc.) are aggregated in the calculation. For vintage-specific 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](http://pitchbook.com). [PitchBook News & Analysis](http://pitchbook.com/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).

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

# Gain confidence in your cash flow projections with Portfolio Forecasting



Helping allocators answer the important questions when it comes to managing private fund structures in their portfolios

Developed and tested by PitchBook's [Institutional Research Group](#), our proprietary, probabilistic cash flow models are built from our robust historical [fund data](#).

With these models, you can confidently forecast the cash flows of private market funds and develop a commitment schedule to achieve your target allocations.

Learn more about [Portfolio Forecasting](#)



# Contents

<b>Introduction</b>	<b>3</b>	<b>Real assets</b>	<b>32-38</b>
<b>Methodology</b>	<b>4-5</b>	IRRs by vintage	33-34
<b>Private capital</b>	<b>7-10</b>	PMEs by vintage	35
Horizon IRRs	8-9	Multiples by vintage	36-37
One-year horizon IRRs	10	Quarterly return	38
<b>Private equity</b>	<b>11-17</b>	<b>Private debt</b>	<b>39-45</b>
IRRs by vintage	12-13	IRRs by vintage	40-41
PMEs by vintage	14	PMEs by vintage	42
Multiples by vintage	15-16	Multiples by vintage	43-44
Quarterly return	17	Quarterly return	45
<b>Venture capital</b>	<b>18-24</b>	<b>Funds of funds</b>	<b>46-52</b>
IRRs by vintage	19-20	IRRs by vintage	47-48
PMEs by vintage	21	PMEs by vintage	49
Multiples by vintage	22-23	Multiples by vintage	50-51
Quarterly return	24	Quarterly return	52
<b>Real estate</b>	<b>25-31</b>	<b>Secondaries</b>	<b>53-59</b>
IRRs by vintage	26-27	IRRs by vintage	54-55
PMEs by vintage	28	PMEs by vintage	56
Multiples by vintage	29-30	Multiples by vintage	57-58
Quarterly return	31	Quarterly return	59

# Private capital

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# Private capital

## Horizon IRRs

Strategy	Q3 2022*	Q2 2022	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	1.00%	-1.41%	12.02%	19.13%	16.21%	14.37%	10.85%	12.26%
Private equity	-0.64%	-2.37%	11.37%	23.90%	19.89%	16.95%	12.34%	14.58%
Venture capital	-4.84%	-8.16%	2.83%	26.84%	22.76%	16.61%	12.11%	10.51%
Real estate	0.49%	2.64%	24.20%	14.14%	12.02%	12.93%	7.33%	8.20%
Real assets	4.57%	2.95%	18.50%	9.90%	8.40%	7.67%	7.47%	8.04%
Private debt	1.31%	-2.04%	3.50%	7.79%	7.50%	8.83%	7.95%	8.98%
Funds of funds	8.35%	-0.66%	11.49%	23.63%	19.12%	14.20%	10.66%	11.29%
Secondaries	8.23%	1.49%	21.67%	18.58%	16.98%	14.04%	12.33%	12.93%
S&P 500	-4.88%	-16.10%	-10.62%	10.60%	11.31%	12.96%	8.54%	9.08%
Morningstar Global	-6.57%	-15.68%	-16.09%	6.31%	7.16%	9.24%	5.47%	8.10%
MSCI World Small Cap Growth	-4.17%	-19.86%	-29.31%	3.41%	5.88%	9.58%	6.16%	9.39%
Morningstar Global Real Estate	-11.94%	-15.25%	-14.13%	0.05%	2.96%	5.81%	2.98%	7.79%
Morningstar Real Assets	-6.27%	-9.38%	-2.26%	4.87%	4.70%	2.70%	4.45%	6.26%
Morningstar Global High Yield	-2.29%	-11.52%	-15.68%	-1.01%	1.17%	3.86%	5.26%	6.93%

\*For private fund strategies these are preliminary quarterly returns.

Source: PitchBook | Geography: Global | Data as of June 30, 2022

Note: all public index values are total return CAGRs



# Private capital

## Equal-weighted horizon IRRs

Strategy	Q3 2022*	Q2 2022	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	1.35%	-1.06%	12.13%	19.31%	16.54%	13.76%	10.83%	11.31%
Private equity	1.01%	-0.31%	13.99%	22.02%	18.75%	15.43%	12.12%	13.92%
Venture capital	-5.25%	-6.06%	9.28%	27.17%	22.98%	15.77%	11.59%	9.66%
Real estate	4.55%	1.92%	19.36%	12.33%	10.85%	11.65%	7.33%	8.09%
Real assets	4.29%	3.09%	16.29%	8.85%	7.56%	6.96%	7.18%	8.56%
Private debt	1.74%	-0.48%	3.68%	7.97%	8.28%	9.39%	8.08%	9.45%
Funds of funds	1.78%	-2.12%	9.92%	24.51%	20.41%	15.78%	12.89%	12.97%
Secondaries	3.25%	4.90%	17.82%	18.46%	16.02%	13.35%	11.93%	12.26%
S&P 500	-4.88%	-16.10%	-10.62%	10.60%	11.31%	12.96%	8.54%	9.08%
Morningstar Global	-6.57%	-15.68%	-16.09%	6.31%	7.16%	9.24%	5.47%	8.10%
MSCI World Small Cap Growth	-4.17%	-19.86%	-29.31%	3.41%	5.88%	9.58%	6.16%	9.39%
Morningstar Global Real Estate	-11.94%	-15.25%	-14.13%	0.05%	2.96%	5.81%	2.98%	7.79%
Morningstar Real Assets	-6.27%	-9.38%	-2.26%	4.87%	4.70%	2.70%	4.45%	6.26%
Morningstar Global High Yield	-2.29%	-11.52%	-15.68%	-1.01%	1.17%	3.86%	5.26%	6.93%

\*For private fund strategies these are preliminary quarterly returns

Source: PitchBook | Geography: Global | Data as of June 30, 2022

Note: all public index values are total return CAGRs

# Private capital

## One-year horizon IRRs of select strategies

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*	15-year horizon IRR
Other PE 2.9%	Private debt 19.6%	Secondaries 21.1%	Secondaries 13.3%	Secondaries 15.6%	Other PE 29.0%	Venture capital 18.6%	Venture capital 12.9%	Other PE 18.9%	Other PE 29.3%	Other PE 32.4%	Growth-Expansion 18.3%	Venture capital 36.7%	Venture capital 52.9%	Real assets 9.1%	Growth-Expansion 14.7%
Real assets -3.1%	Other PE 17.8%	Private debt 18.9%	Real assets 12.2%	Buyout 14.7%	Venture capital 21.0%	Secondaries 13.5%	Buyout 12.8%	Buyout 12.8%	Buyout 20.7%	Growth-Expansion 17.7%	Venture capital 17.2%	Growth-Expansion 35.8%	Growth-Expansion 48.5%	Real estate 8.2%	Other PE 14.6%
Secondaries -9.6%	Growth-Expansion 8.7%	Growth-Expansion 18.3%	Venture capital 10.9%	Private debt 14.6%	Real estate 18.2%	Real estate 13.5%	Funds of funds 12.7%	Real assets 12.6%	Growth-Expansion 18.5%	Venture capital 17.7%	Other PE 16.9%	Funds of funds 24.3%	Funds of funds 46.0%	Other PE 4.7%	Secondaries 12.3%
Funds of funds -12.1%	Buyout 8.1%	Buyout 17.8%	Real estate 10.1%	Private capital 12.7%	Buyout 17.8%	Other PE 13.1%	Growth-Expansion 11.4%	Private capital 10.5%	Private capital 16.2%	Funds of funds 15.5%	Buyout 15.9%	Buyout 20.4%	Buyout 46.0%	Secondaries 4.1%	Buyout 12.1%
Venture capital -12.5%	Private capital 2.6%	Private capital 16.1%	Growth-Expansion 8.4%	Real estate 11.3%	Private capital 15.6%	Buyout 13.0%	Real estate 10.9%	Growth-Expansion 10.3%	Secondaries 15.7%	Secondaries 14.7%	Private capital 11.5%	Private capital 15.3%	Secondaries 43.8%	Private capital 1.3%	Venture capital 12.1%
Growth-Expansion -15.3%	Funds of funds 0.2%	Real estate 12.7%	Private capital 8.2%	Growth-Expansion 11.1%	Growth-Expansion 13.0%	Growth-Expansion 12.9%	Secondaries 10.8%	Real estate 9.9%	Real estate 14.9%	Private capital 10.2%	Funds of funds 11.2%	Other PE 12.6%	Private capital 38.0%	Private debt -0.2%	Private capital 10.8%
Private capital -20.6%	Venture capital 0.1%	Real assets 12.1%	Buyout 8.0%	Other PE 9.7%	Private debt 12.4%	Private capital 12.6%	Private capital 9.9%	Private debt 9.0%	Funds of funds 13.0%	Buyout 10.1%	Secondaries 9.0%	Secondaries 8.0%	Other PE 28.3%	Buyout -0.5%	Funds of funds 10.7%
Buyout -21.8%	Real assets 0.0%	Venture capital 11.7%	Funds of funds 6.0%	Funds of funds 8.3%	Funds of funds 11.9%	Funds of funds 12.3%	Private debt 5.4%	Funds of funds 7.8%	Venture capital 10.9%	Real assets 8.2%	Real estate 8.8%	Real estate 3.8%	Real estate 26.0%	Funds of funds -1.3%	Private debt 7.9%
Private debt -25.9%	Secondaries -9.9%	Other PE 9.5%	Private debt 3.4%	Venture capital 7.0%	Secondaries 11.3%	Private debt 10.5%	Other PE 3.4%	Secondaries 7.4%	Private debt 10.8%	Real estate 6.9%	Private debt 8.0%	Private debt 3.6%	Real assets 21.5%	Venture capital -4.5%	Real assets 7.5%
Real estate -31.4%	Real estate -39.5%	Funds of funds 5.8%	Other PE 2.4%	Real assets 6.6%	Real assets 4.9%	Real assets 7.0%	Real assets -4.0%	Venture capital 0.0%	Real assets 10.1%	Private debt 4.8%	Real assets -0.6%	Real assets -0.1%	Private debt 15.6%	Growth-Expansion -5.0%	Real estate 7.3%

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private equity

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# 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
1998	6.62%	5.28%	40	22.28%	15.80%	9.36%	2.38%	-7.97%	20.13%	93
1999	11.02%	10.87%	39	26.12%	17.86%	11.79%	5.16%	-1.32%	11.59%	87
2000	15.08%	12.66%	50	31.42%	23.59%	13.51%	7.13%	-1.88%	12.51%	110
2001	26.92%	21.96%	28	41.33%	31.60%	19.19%	9.36%	2.93%	17.55%	63
2002	20.68%	18.28%	31	42.17%	30.08%	17.70%	7.40%	2.20%	18.45%	61
2003	16.90%	14.42%	28	42.45%	29.78%	18.39%	8.68%	2.54%	35.16%	66
2004	10.13%	10.24%	45	39.43%	23.93%	12.22%	2.94%	-3.45%	19.70%	72
2005	9.63%	9.73%	67	20.42%	14.00%	8.22%	2.50%	-2.16%	13.52%	113
2006	8.17%	7.98%	97	19.16%	12.90%	8.69%	4.41%	-1.15%	10.42%	154
2007	9.09%	9.47%	111	21.95%	15.60%	8.82%	3.76%	-2.98%	12.72%	165
2008	13.34%	11.30%	103	23.02%	16.98%	10.40%	5.30%	-4.40%	17.49%	134
2009	12.68%	13.84%	41	26.59%	21.25%	11.32%	7.47%	2.06%	16.24%	55
2010	11.22%	10.92%	51	28.90%	21.61%	12.92%	5.46%	-1.70%	23.49%	66
2011	16.00%	16.01%	71	35.30%	23.06%	15.48%	8.00%	1.59%	17.72%	90
2012	15.63%	14.59%	90	30.64%	20.97%	14.66%	8.67%	1.47%	13.25%	108
2013	15.23%	15.07%	94	31.35%	21.70%	14.86%	9.24%	5.70%	10.48%	102
2014	20.65%	19.84%	90	32.39%	26.25%	18.94%	11.03%	7.53%	12.97%	94
2015	20.84%	19.01%	105	34.11%	26.27%	19.75%	14.85%	9.14%	10.40%	103
2016	22.10%	22.17%	117	35.73%	26.42%	21.04%	16.16%	9.96%	13.19%	123
2017	27.68%	26.50%	118	45.34%	34.07%	24.00%	16.63%	8.28%	16.49%	117
2018	26.15%	24.22%	124	48.69%	34.00%	23.80%	15.83%	10.39%	18.77%	138
2019	29.48%	25.95%	150	55.73%	35.25%	23.63%	13.39%	4.25%	23.86%	157
2020	25.47%	27.03%	115	62.00%	38.31%	21.00%	8.07%	-1.49%	35.82%	111
2021	8.61%	19.11%	119	60.08%	27.71%	8.40%	-4.67%	-18.52%	39.32%	127

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private equity

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private equity

## PMEs by vintage

Vintage year	S&P 500			Morningstar Global			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1998	6.62%	7.88%	1.31	6.62%			40
1999	11.02%	7.20%	1.44	11.02%	6.69%	1.27	39
2000	15.08%	6.90%	1.47	15.08%	6.03%	1.29	50
2001	26.92%	7.73%	1.72	26.92%	6.99%	1.54	28
2002	20.68%	8.69%	1.50	20.68%	8.06%	1.37	31
2003	16.90%	10.62%	1.47	16.90%	9.68%	1.41	28
2004	10.13%	9.47%	1.29	10.13%	8.06%	1.26	45
2005	9.63%	9.61%	1.17	9.63%	7.80%	1.25	67
2006	8.17%	9.61%	1.03	8.17%	7.19%	1.15	97
2007	9.09%	9.38%	0.93	9.09%	6.52%	1.08	111
2008	13.34%	10.34%	1.01	13.34%	6.89%	1.16	103
2009	12.68%	15.34%	0.94	12.68%	12.04%	1.11	41
2010	11.22%	13.38%	0.93	11.22%	9.29%	1.09	51
2011	16.00%	12.95%	1.09	16.00%	8.53%	1.29	71
2012	15.63%	13.68%	1.09	15.63%	9.61%	1.25	90
2013	15.23%	13.56%	1.08	15.23%	9.21%	1.24	94
2014	20.65%	12.38%	1.28	20.65%	8.26%	1.46	90
2015	20.84%	12.05%	1.24	20.84%	8.47%	1.40	105
2016	22.10%	14.75%	1.23	22.10%	11.36%	1.38	117
2017	27.68%	13.46%	1.33	27.68%	9.80%	1.46	118
2018	26.15%	12.00%	1.22	26.15%	7.18%	1.31	124
2019	29.48%	15.43%	1.24	29.48%	10.78%	1.32	150
2020	25.47%	15.85%	1.19	25.47%	11.32%	1.25	115
2021	8.61%	6.44%	1.08	8.61%	-1.24%	1.11	119

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private equity

## Multiples by vintage

### Pooled multiples

### Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1998	1.39x	1.39x	0.00x	1.28x	1.28x	0.00x	40
1999	1.63x	1.61x	0.02x	1.68x	1.64x	0.04x	39
2000	1.84x	1.82x	0.02x	1.79x	1.75x	0.03x	50
2001	2.24x	2.23x	0.01x	1.98x	1.96x	0.02x	28
2002	2.02x	2.00x	0.01x	1.91x	1.90x	0.01x	31
2003	1.95x	1.93x	0.02x	1.82x	1.80x	0.02x	28
2004	1.68x	1.63x	0.05x	1.62x	1.56x	0.06x	45
2005	1.63x	1.60x	0.03x	1.62x	1.57x	0.06x	67
2006	1.58x	1.53x	0.05x	1.54x	1.47x	0.07x	97
2007	1.58x	1.50x	0.08x	1.58x	1.49x	0.09x	111
2008	1.74x	1.65x	0.09x	1.65x	1.52x	0.13x	103
2009	1.67x	1.53x	0.14x	1.76x	1.58x	0.19x	41
2010	1.76x	1.46x	0.30x	1.69x	1.35x	0.34x	51
2011	2.02x	1.60x	0.42x	2.01x	1.58x	0.43x	71
2012	1.83x	1.30x	0.53x	1.76x	1.28x	0.48x	90
2013	1.78x	1.20x	0.58x	1.81x	1.17x	0.64x	94
2014	2.10x	1.17x	0.93x	2.11x	1.18x	0.93x	90
2015	1.97x	1.05x	0.92x	1.89x	0.93x	0.96x	105
2016	1.88x	0.78x	1.10x	1.87x	0.76x	1.11x	117
2017	1.82x	0.51x	1.32x	1.79x	0.56x	1.23x	118
2018	1.49x	0.25x	1.24x	1.52x	0.31x	1.21x	124
2019	1.41x	0.17x	1.24x	1.39x	0.20x	1.19x	150
2020	1.19x	0.10x	1.09x	1.25x	0.14x	1.11x	115
2021	1.04x	0.05x	0.99x	1.13x	0.08x	1.05x	119

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998	1.90x	1.59x	1.36x	0.92x	0.57x	1.90x	1.59x	1.35x	0.92x	0.57x	40
1999	2.52x	2.11x	1.59x	1.14x	0.98x	2.44x	2.06x	1.59x	1.13x	0.98x	39
2000	2.71x	2.19x	1.82x	1.34x	0.84x	2.71x	2.18x	1.74x	1.34x	0.82x	50
2001	2.71x	2.43x	2.10x	1.52x	1.12x	2.71x	2.43x	2.00x	1.52x	1.11x	28
2002	3.05x	2.25x	1.94x	1.51x	1.22x	2.95x	2.25x	1.93x	1.50x	1.22x	31
2003	2.85x	1.99x	1.73x	1.48x	1.00x	2.83x	1.99x	1.72x	1.39x	0.90x	28
2004	2.54x	2.02x	1.59x	1.17x	0.67x	2.52x	2.02x	1.59x	1.13x	0.65x	45
2005	2.38x	1.87x	1.52x	1.24x	0.98x	2.34x	1.84x	1.48x	1.17x	0.90x	67
2006	2.16x	1.83x	1.50x	1.20x	0.92x	2.13x	1.73x	1.46x	1.15x	0.81x	97
2007	2.41x	2.01x	1.51x	1.18x	0.89x	2.26x	1.91x	1.48x	1.08x	0.74x	111
2008	2.27x	1.99x	1.63x	1.25x	0.87x	2.21x	1.94x	1.47x	1.16x	0.71x	103
2009	2.63x	1.99x	1.69x	1.37x	1.14x	2.43x	1.90x	1.47x	1.16x	0.85x	41
2010	2.67x	1.93x	1.60x	1.13x	0.89x	2.43x	1.70x	1.23x	0.89x	0.44x	51
2011	3.24x	2.43x	1.81x	1.54x	1.03x	2.90x	2.03x	1.42x	0.96x	0.57x	71
2012	2.64x	2.13x	1.73x	1.31x	1.00x	2.16x	1.69x	1.22x	0.87x	0.51x	90
2013	2.38x	2.05x	1.69x	1.45x	1.21x	1.77x	1.41x	1.11x	0.79x	0.34x	94
2014	3.52x	2.39x	1.94x	1.46x	1.25x	2.27x	1.55x	1.05x	0.57x	0.22x	90
2015	2.57x	2.14x	1.83x	1.49x	1.14x	1.53x	1.23x	0.93x	0.44x	0.19x	105
2016	2.41x	2.03x	1.73x	1.52x	1.35x	1.40x	1.02x	0.65x	0.32x	0.18x	117
2017	2.48x	2.05x	1.59x	1.38x	1.16x	1.08x	0.69x	0.43x	0.27x	0.10x	118
2018	1.96x	1.72x	1.47x	1.30x	1.15x	0.67x	0.48x	0.20x	0.06x	0.02x	124
2019	1.84x	1.50x	1.27x	1.14x	0.99x	0.48x	0.22x	0.07x	0.00x	0.00x	150
2020	1.49x	1.32x	1.16x	1.02x	0.93x	0.29x	0.12x	0.02x	0.00x	0.00x	114
2021	1.43x	1.18x	1.05x	0.92x	0.83x	0.15x	0.02x	0.00x	0.00x	0.00x	112

Source: PitchBook | Geography: Global | Data as of June 30, 2022



# Private equity

## Quarterly return

Quarter end	1-quarter return
Q1 2001	-7.31%
Q2 2001	1.89%
Q3 2001	-5.78%
Q4 2001	-2.81%
Q1 2002	0.61%
Q2 2002	-3.29%
Q3 2002	-3.45%
Q4 2002	-0.33%
Q1 2003	-0.09%
Q2 2003	6.50%
Q3 2003	4.17%
Q4 2003	9.99%
Q1 2004	9.19%
Q2 2004	-0.09%
Q3 2004	3.19%
Q4 2004	14.09%
Q1 2005	1.88%
Q2 2005	8.60%
Q3 2005	7.19%
Q4 2005	10.87%
Q1 2006	4.29%
Q2 2006	5.23%
Q3 2006	4.42%
Q4 2006	13.15%

Quarter end	1-quarter return
Q1 2007	5.14%
Q2 2007	10.27%
Q3 2007	3.86%
Q4 2007	3.31%
Q1 2008	-0.20%
Q2 2008	-1.27%
Q3 2008	-8.57%
Q4 2008	-12.00%
Q1 2009	-7.41%
Q2 2009	4.44%
Q3 2009	5.24%
Q4 2009	7.56%
Q1 2010	2.38%
Q2 2010	1.78%
Q3 2010	4.50%
Q4 2010	8.16%
Q1 2011	4.98%
Q2 2011	4.63%
Q3 2011	-3.21%
Q4 2011	1.65%
Q1 2012	6.00%
Q2 2012	0.82%
Q3 2012	3.68%
Q4 2012	3.09%

Quarter end	1-quarter return
Q1 2013	3.18%
Q2 2013	2.95%
Q3 2013	4.75%
Q4 2013	6.05%
Q1 2014	4.66%
Q2 2014	5.04%
Q3 2014	-0.08%
Q4 2014	3.16%
Q1 2015	3.49%
Q2 2015	5.60%
Q3 2015	0.60%
Q4 2015	2.09%
Q1 2016	1.69%
Q2 2016	4.76%
Q3 2016	4.18%
Q4 2016	1.27%
Q1 2017	4.67%
Q2 2017	5.58%
Q3 2017	4.55%
Q4 2017	4.73%
Q1 2018	4.15%
Q2 2018	3.87%
Q3 2018	3.43%
Q4 2018	-0.80%

Quarter end	1-quarter return
Q1 2019	4.61%
Q2 2019	3.13%
Q3 2019	3.26%
Q4 2019	4.82%
Q1 2020	-8.14%
Q2 2020	9.44%
Q3 2020	12.42%
Q4 2020	7.42%
Q1 2021	14.71%
Q2 2021	14.32%
Q3 2021	5.74%
Q4 2021	6.60%
Q1 2022	1.25%
Q2 2022	-2.37%
Q3 2022*	-0.64%

\*Preliminary figure

# Venture capital

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# 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
1998	7.41%	5.63%	20	48.48%	16.49%	4.32%	-7.81%	-11.11%	33.32%	46
1999	-1.95%	-3.19%	36	9.47%	3.09%	-4.14%	-12.27%	-18.60%	11.96%	71
2000	-0.63%	-1.79%	61	10.30%	4.61%	-1.10%	-6.09%	-14.00%	11.09%	116
2001	4.89%	3.29%	33	17.50%	7.66%	4.00%	-3.60%	-14.98%	19.28%	69
2002	2.80%	2.36%	20	12.89%	9.03%	2.65%	-7.25%	-15.03%	19.81%	44
2003	5.48%	1.37%	21	15.07%	8.08%	3.12%	-4.82%	-18.69%	24.02%	38
2004	4.54%	7.64%	22	23.27%	7.25%	0.88%	-7.80%	-16.61%	18.28%	40
2005	8.91%	8.37%	29	13.68%	9.89%	3.51%	-0.60%	-11.55%	17.58%	56
2006	5.90%	3.39%	41	19.04%	10.89%	4.16%	-6.58%	-10.00%	14.55%	71
2007	11.25%	11.34%	48	26.62%	16.27%	9.22%	2.45%	-8.18%	13.53%	77
2008	13.62%	10.34%	49	29.04%	20.55%	10.03%	-5.60%	-17.64%	23.18%	68
2009	12.28%	9.31%	22	28.16%	19.00%	8.60%	2.69%	-3.20%	12.07%	31
2010	15.19%	17.48%	23	39.99%	24.55%	13.00%	3.90%	-3.85%	17.53%	37
2011	21.35%	22.80%	19	36.82%	22.54%	18.00%	10.12%	5.04%	18.07%	47
2012	18.71%	19.97%	19	41.67%	31.08%	18.30%	9.63%	1.68%	15.86%	43
2013	20.15%	16.05%	22	33.95%	25.36%	18.00%	13.28%	6.52%	15.06%	42
2014	23.20%	21.64%	40	38.22%	29.27%	18.37%	11.60%	6.17%	13.29%	49
2015	21.42%	22.20%	44	43.73%	36.98%	26.26%	14.49%	6.58%	14.91%	60
2016	30.07%	32.83%	49	48.61%	37.18%	29.89%	20.93%	13.12%	15.27%	67
2017	30.30%	31.60%	37	64.90%	44.23%	29.65%	20.64%	10.75%	20.01%	52
2018	32.06%	28.64%	46	52.29%	44.10%	31.84%	22.45%	16.90%	16.03%	61
2019	36.03%	36.40%	43	87.91%	62.45%	35.03%	16.32%	8.09%	40.25%	74
2020	40.17%	41.49%	47	74.40%	58.57%	32.35%	13.45%	-1.64%	45.25%	72
2021	17.17%	19.12%	39	49.29%	23.61%	4.49%	-6.17%	-17.61%	28.74%	72

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Venture capital

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Venture capital

## PMEs by vintage

Vintage year	S&P 500			MSCI World Small Cap Growth			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1998	7.41%	7.88%	1.19	7.41%	8.01%	0.99	20
1999	-1.95%	7.20%	0.78	-1.95%	8.35%	0.65	36
2000	-0.63%	6.90%	0.69	-0.63%	6.42%	0.54	61
2001	4.89%	7.73%	0.91	4.89%	8.31%	0.74	33
2002	2.80%	8.69%	0.82	2.80%	9.54%	0.68	20
2003	5.48%	10.62%	0.92	5.48%	11.33%	0.84	21
2004	4.54%	9.47%	0.84	4.54%	9.07%	0.80	22
2005	8.91%	9.61%	0.99	8.91%	8.70%	1.02	29
2006	5.90%	9.61%	0.78	5.90%	7.84%	0.80	41
2007	11.25%	9.38%	1.00	11.25%	7.45%	1.06	48
2008	13.62%	10.34%	1.01	13.62%	8.25%	1.08	49
2009	12.28%	15.34%	0.91	12.28%	13.71%	1.03	22
2010	15.19%	13.38%	1.06	15.19%	10.53%	1.22	23
2011	21.35%	12.95%	1.47	21.35%	8.90%	1.70	19
2012	18.71%	13.68%	1.34	18.71%	10.05%	1.59	19
2013	20.15%	13.56%	1.37	20.15%	9.81%	1.59	22
2014	23.20%	12.38%	1.59	23.20%	7.75%	1.86	40
2015	21.42%	12.05%	1.32	21.42%	8.54%	1.55	44
2016	30.07%	14.75%	1.63	30.07%	11.21%	1.94	49
2017	30.30%	13.46%	1.52	30.30%	9.32%	1.79	37
2018	32.06%	12.00%	1.46	32.06%	5.71%	1.73	46
2019	36.03%	15.43%	1.38	36.03%	8.83%	1.61	43
2020	40.17%	15.85%	1.35	40.17%	9.15%	1.59	47
2021	17.17%	6.44%	1.13	17.17%	-14.82%	1.33	39

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Venture capital

## Multiples by vintage

### Pooled multiples

### Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1998	1.31x	1.30x	0.01x	1.23x	1.22x	0.01x	20
1999	0.87x	0.83x	0.04x	0.81x	0.80x	0.01x	36
2000	0.95x	0.93x	0.02x	0.88x	0.86x	0.02x	61
2001	1.39x	1.30x	0.09x	1.26x	1.16x	0.10x	33
2002	1.19x	1.18x	0.02x	1.18x	1.04x	0.13x	20
2003	1.39x	1.35x	0.03x	1.08x	1.07x	0.02x	21
2004	1.37x	1.32x	0.05x	1.67x	1.56x	0.11x	22
2005	1.91x	1.59x	0.32x	1.92x	1.53x	0.39x	29
2006	1.46x	1.28x	0.18x	1.27x	1.10x	0.17x	41
2007	1.93x	1.58x	0.35x	1.95x	1.61x	0.35x	48
2008	2.06x	1.80x	0.25x	1.84x	1.50x	0.35x	49
2009	2.18x	1.57x	0.61x	1.87x	1.11x	0.76x	22
2010	2.22x	1.43x	0.79x	2.48x	1.65x	0.83x	23
2011	3.43x	2.38x	1.06x	3.89x	2.69x	1.20x	19
2012	2.94x	1.45x	1.49x	3.34x	1.72x	1.62x	19
2013	2.55x	1.15x	1.39x	2.21x	0.88x	1.33x	22
2014	3.08x	1.19x	1.88x	3.01x	1.16x	1.85x	40
2015	2.29x	0.68x	1.60x	2.35x	0.65x	1.70x	44
2016	2.59x	0.57x	2.02x	2.78x	0.67x	2.11x	49
2017	2.23x	0.43x	1.81x	2.37x	0.42x	1.95x	37
2018	1.92x	0.15x	1.76x	1.97x	0.21x	1.76x	46
2019	1.64x	0.12x	1.52x	1.61x	0.13x	1.48x	43
2020	1.43x	0.05x	1.39x	1.46x	0.05x	1.41x	47
2021	1.16x	0.00x	1.16x	1.18x	0.00x	1.18x	39

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998	1.80x	1.66x	1.31x	0.68x	0.46x	1.80x	1.66x	1.31x	0.68x	0.46x	20
1999	1.49x	1.06x	0.74x	0.40x	0.21x	1.43x	1.06x	0.74x	0.40x	0.21x	36
2000	1.43x	1.15x	0.91x	0.57x	0.26x	1.43x	1.13x	0.87x	0.56x	0.22x	61
2001	2.05x	1.61x	1.27x	0.79x	0.37x	1.85x	1.58x	1.10x	0.72x	0.35x	33
2002	1.78x	1.66x	1.22x	0.67x	0.37x	1.73x	1.60x	1.12x	0.54x	0.31x	20
2003	1.65x	1.44x	1.14x	0.54x	0.40x	1.65x	1.42x	1.14x	0.54x	0.40x	21
2004	2.50x	1.63x	1.03x	0.71x	0.42x	1.85x	1.49x	1.02x	0.58x	0.42x	22
2005	2.83x	2.03x	1.30x	1.02x	0.54x	2.26x	2.03x	1.27x	0.98x	0.51x	29
2006	2.40x	1.71x	1.09x	0.67x	0.39x	2.12x	1.48x	1.02x	0.53x	0.29x	41
2007	2.87x	2.51x	1.71x	1.00x	0.48x	2.66x	2.13x	1.51x	0.63x	0.25x	48
2008	3.36x	2.45x	1.51x	0.64x	0.23x	3.28x	1.98x	0.90x	0.39x	0.22x	49
2009	2.60x	2.14x	1.78x	1.09x	0.79x	2.43x	1.51x	0.90x	0.52x	0.40x	22
2010	3.76x	3.14x	1.82x	1.40x	0.77x	2.95x	1.81x	1.25x	0.74x	0.45x	23
2011	5.24x	3.34x	2.04x	1.68x	0.92x	3.17x	2.30x	1.43x	1.00x	0.42x	19
2012	4.62x	2.90x	2.12x	1.31x	0.95x	2.60x	2.02x	1.06x	0.48x	0.22x	19
2013	4.12x	2.79x	2.29x	1.37x	0.70x	1.82x	1.07x	0.87x	0.41x	0.21x	22
2014	5.47x	3.68x	2.38x	1.86x	1.26x	2.15x	1.60x	1.05x	0.31x	0.08x	40
2015	3.76x	3.01x	2.18x	1.40x	1.24x	1.43x	0.98x	0.40x	0.18x	0.03x	44
2016	4.75x	3.62x	2.32x	1.78x	1.42x	1.64x	0.87x	0.41x	0.13x	0.00x	49
2017	3.45x	2.54x	2.19x	1.77x	1.34x	1.05x	0.71x	0.18x	0.05x	0.00x	37
2018	2.87x	2.24x	1.71x	1.39x	1.04x	0.69x	0.21x	0.02x	0.00x	0.00x	46
2019	2.12x	1.68x	1.36x	1.18x	1.06x	0.28x	0.05x	0.00x	0.00x	0.00x	43
2020	1.93x	1.58x	1.33x	1.09x	1.00x	0.11x	0.01x	0.00x	0.00x	0.00x	47
2021	1.34x	1.20x	1.07x	0.95x	0.86x	0.00x	0.00x	0.00x	0.00x	0.00x	39

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Venture capital

## Quarterly return

Quarter end	1-quarter return
Q1 2001	-11.46%
Q2 2001	-8.71%
Q3 2001	-14.36%
Q4 2001	-11.21%
Q1 2002	-7.15%
Q2 2002	-12.66%
Q3 2002	-7.81%
Q4 2002	-13.57%
Q1 2003	-5.73%
Q2 2003	-1.84%
Q3 2003	-2.27%
Q4 2003	2.96%
Q1 2004	0.08%
Q2 2004	0.72%
Q3 2004	-0.70%
Q4 2004	3.13%
Q1 2005	-1.94%
Q2 2005	0.73%
Q3 2005	4.94%
Q4 2005	2.57%
Q1 2006	2.90%
Q2 2006	1.19%
Q3 2006	1.70%
Q4 2006	7.37%

Quarter end	1-quarter return
Q1 2007	2.29%
Q2 2007	5.76%
Q3 2007	1.91%
Q4 2007	3.97%
Q1 2008	2.64%
Q2 2008	-2.28%
Q3 2008	-3.11%
Q4 2008	-9.32%
Q1 2009	-3.53%
Q2 2009	-0.09%
Q3 2009	1.50%
Q4 2009	2.78%
Q1 2010	1.36%
Q2 2010	-0.28%
Q3 2010	4.08%
Q4 2010	6.94%
Q1 2011	4.87%
Q2 2011	4.59%
Q3 2011	-0.16%
Q4 2011	1.51%
Q1 2012	4.14%
Q2 2012	1.33%
Q3 2012	-0.38%
Q4 2012	2.12%

Quarter end	1-quarter return
Q1 2013	2.14%
Q2 2013	4.69%
Q3 2013	5.32%
Q4 2013	8.78%
Q1 2014	4.94%
Q2 2014	3.25%
Q3 2014	2.63%
Q4 2014	6.96%
Q1 2015	4.56%
Q2 2015	7.22%
Q3 2015	-0.77%
Q4 2015	2.17%
Q1 2016	-3.87%
Q2 2016	0.45%
Q3 2016	3.23%
Q4 2016	0.69%
Q1 2017	2.44%
Q2 2017	2.14%
Q3 2017	3.82%
Q4 2017	3.10%
Q1 2018	7.13%
Q2 2018	5.24%
Q3 2018	3.70%
Q4 2018	0.88%

Quarter end	1-quarter return
Q1 2019	6.98%
Q2 2019	2.54%
Q3 2019	1.74%
Q4 2019	5.81%
Q1 2020	-1.11%
Q2 2020	8.74%
Q3 2020	11.50%
Q4 2020	17.46%
Q1 2021	20.81%
Q2 2021	13.69%
Q3 2021	6.76%
Q4 2021	5.98%
Q1 2022	-5.02%
Q2 2022	-8.16%
Q3 2022*	-4.84%

\*Preliminary figure



Real estate

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# Real estate

## IRRs by vintage

### Pooled IRRs

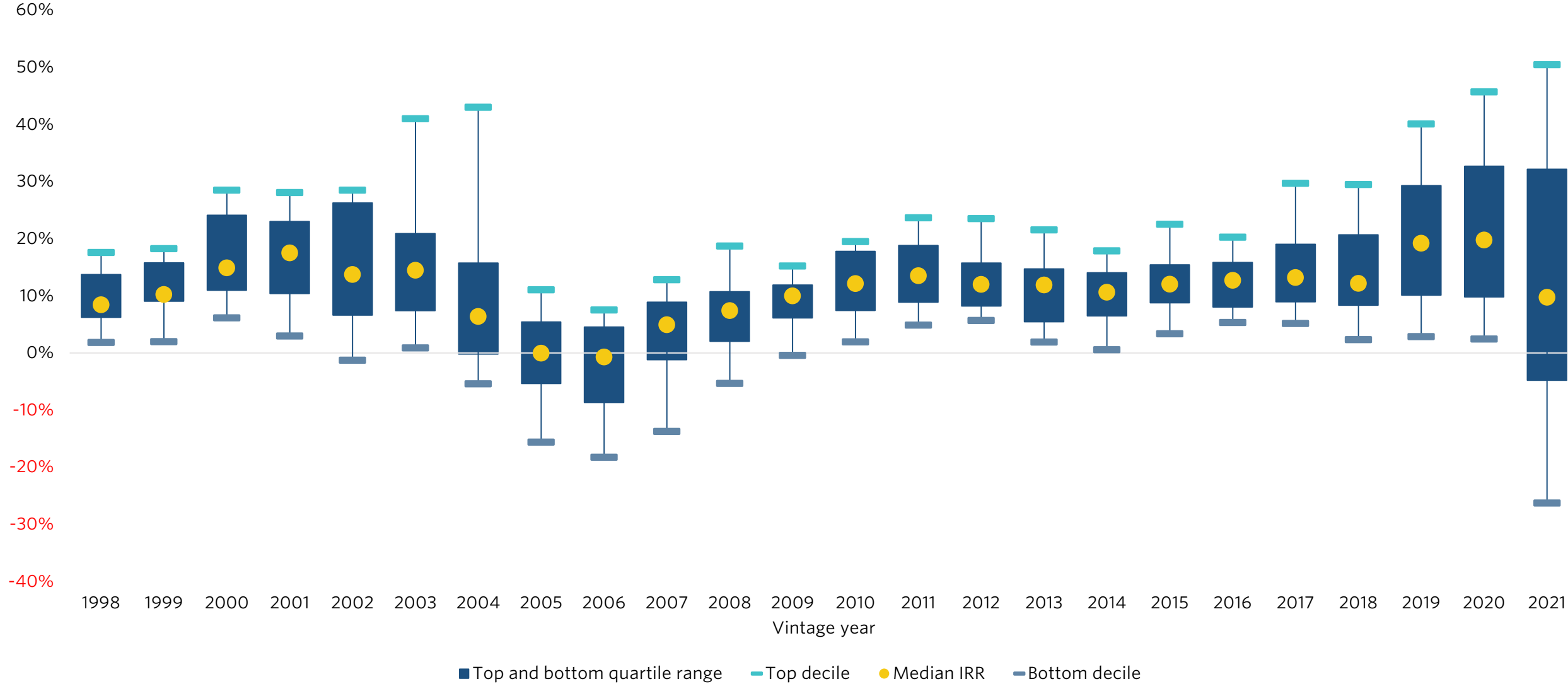
### IRR quantiles

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
1998	5.04%	5.56%	8	17.58%	13.74%	8.44%	6.26%	1.84%	6.73%	22
1999	11.81%	9.15%	2	18.23%	15.79%	10.22%	9.06%	1.97%	7.48%	20
2000	16.43%	16.17%	11	28.48%	24.13%	14.91%	10.98%	6.15%	10.09%	22
2001	28.05%	24.31%	2	28.06%	23.00%	17.50%	10.40%	2.96%	9.66%	17
2002	8.54%	15.69%	3	28.47%	26.25%	13.73%	6.64%	-1.27%	16.68%	19
2003	10.52%	9.99%	5	40.98%	20.89%	14.47%	7.39%	0.88%	40.73%	32
2004	5.11%	6.57%	9	42.99%	15.76%	6.39%	-0.18%	-5.42%	21.77%	34
2005	0.51%	-0.48%	27	11.06%	5.43%	-0.04%	-5.33%	-15.61%	26.06%	50
2006	-3.88%	-2.09%	32	7.50%	4.55%	-0.70%	-8.65%	-18.26%	13.48%	67
2007	3.95%	2.03%	53	12.82%	8.90%	4.95%	-1.17%	-13.75%	11.12%	80
2008	6.06%	5.22%	32	18.70%	10.73%	7.39%	2.05%	-5.35%	12.39%	56
2009	8.86%	8.47%	19	15.20%	11.88%	10.00%	6.15%	-0.42%	8.52%	27
2010	16.19%	12.56%	20	19.50%	17.80%	12.13%	7.46%	1.92%	7.69%	33
2011	15.28%	14.31%	41	23.65%	18.80%	13.50%	8.88%	4.86%	8.85%	53
2012	13.73%	12.08%	44	23.50%	15.75%	12.00%	8.22%	5.69%	9.50%	58
2013	11.50%	10.15%	46	21.54%	14.71%	11.90%	5.48%	1.90%	11.20%	47
2014	10.65%	11.24%	55	17.88%	14.06%	10.62%	6.49%	0.55%	8.41%	54
2015	13.46%	10.79%	75	22.50%	15.42%	12.04%	8.80%	3.35%	7.02%	67
2016	13.85%	12.20%	51	20.27%	15.83%	12.70%	8.04%	5.33%	7.96%	57
2017	14.87%	14.50%	67	29.69%	19.03%	13.20%	8.97%	5.13%	10.24%	62
2018	15.24%	15.68%	74	29.47%	20.70%	12.18%	8.35%	2.32%	21.87%	73
2019	22.86%	15.79%	53	40.08%	29.30%	19.20%	10.11%	2.85%	21.41%	49
2020	25.37%	21.53%	38	45.68%	32.70%	19.77%	9.80%	2.42%	19.66%	33
2021	23.04%	20.29%	54	50.45%	32.17%	9.75%	-4.79%	-26.27%	38.68%	66

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Real estate

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Real estate

## PMEs by vintage

Vintage year	S&P 500			Morningstar Global Real Estate			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1998	5.04%	7.88%	1.23	5.04%			8
1999	11.81%	7.20%	1.72	11.81%	8.21%	1.02	2
2000	16.43%	6.90%	1.57	16.43%	8.16%	1.03	11
2001	28.05%	7.73%	1.54	28.05%	8.05%	1.12	2
2002	8.54%	8.69%	0.97	8.54%	8.56%	0.86	3
2003	10.52%	10.62%	1.08	10.52%	9.17%	0.92	5
2004	5.11%	9.47%	0.94	5.11%	7.13%	0.95	9
2005	0.51%	9.61%	0.69	0.51%	6.33%	0.81	27
2006	-3.88%	9.61%	0.42	-3.88%	5.07%	0.49	32
2007	3.95%	9.38%	0.72	3.95%	3.26%	0.82	53
2008	6.06%	10.34%	0.74	6.06%	4.77%	0.84	32
2009	8.86%	15.34%	0.81	8.86%	11.48%	0.93	19
2010	16.19%	13.38%	1.04	16.19%	7.74%	1.15	20
2011	15.28%	12.95%	1.04	15.28%	6.41%	1.25	41
2012	13.73%	13.68%	1.03	13.73%	7.11%	1.25	44
2013	11.50%	13.56%	0.97	11.50%	5.39%	1.17	46
2014	10.65%	12.38%	0.91	10.65%	5.95%	1.18	55
2015	13.46%	12.05%	0.99	13.46%	4.40%	1.27	75
2016	13.85%	14.75%	0.99	13.85%	6.51%	1.29	51
2017	14.87%	13.46%	1.02	14.87%	5.60%	1.29	67
2018	15.24%	12.00%	1.03	15.24%	4.34%	1.21	74
2019	22.86%	15.43%	1.16	22.86%	4.46%	1.31	53
2020	25.37%	15.85%	1.16	25.37%	3.23%	1.21	38
2021	23.04%	6.44%	1.15	23.04%	3.36%	1.18	54

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Real estate

## Multiples by vintage

Vintage year	Pooled multiples			Equal-weighted pooled multiples			Number of funds
	TVPI	DPI	RVPI	TVPI	DPI	RVPI	
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	1.76x	1.76x	0.00x	1.77x	1.77x	0.00x	11
2001	1.88x	1.88x	0.00x	1.77x	1.77x	0.00x	2
2002	1.23x	1.21x	0.02x	1.51x	1.37x	0.14x	3
2003	1.34x	1.33x	0.00x	1.32x	1.32x	0.01x	5
2004	1.28x	1.21x	0.07x	1.43x	1.30x	0.13x	9
2005	1.03x	1.02x	0.01x	0.97x	0.96x	0.01x	27
2006	0.75x	0.69x	0.05x	0.86x	0.80x	0.06x	32
2007	1.21x	1.17x	0.04x	1.10x	1.06x	0.04x	53
2008	1.28x	1.23x	0.05x	1.25x	1.21x	0.04x	32
2009	1.42x	1.33x	0.09x	1.42x	1.33x	0.09x	19
2010	1.52x	1.48x	0.04x	1.58x	1.43x	0.15x	20
2011	1.69x	1.50x	0.19x	1.71x	1.45x	0.26x	41
2012	1.58x	1.36x	0.22x	1.49x	1.29x	0.20x	44
2013	1.42x	1.14x	0.28x	1.42x	1.07x	0.34x	46
2014	1.50x	1.03x	0.48x	1.56x	0.98x	0.57x	55
2015	1.52x	0.91x	0.61x	1.43x	0.91x	0.52x	75
2016	1.53x	0.76x	0.76x	1.47x	0.79x	0.68x	51
2017	1.48x	0.59x	0.90x	1.50x	0.59x	0.91x	67
2018	1.30x	0.29x	1.01x	1.33x	0.41x	0.92x	74
2019	1.35x	0.34x	1.01x	1.26x	0.32x	0.94x	53
2020	1.20x	0.12x	1.08x	1.19x	0.13x	1.06x	38
2021	1.15x	0.16x	0.99x	1.16x	0.16x	1.01x	54

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998		1.39x	1.31x	1.21x			1.39x	1.31x	1.18x		8
1999			1.66x					1.66x			2
2000	2.75x	1.76x	1.51x	1.35x	1.20x	2.74x	1.76x	1.51x	1.35x	1.19x	11
2001			1.75x					1.75x			2
2002			1.38x					1.38x			3
2003		1.31x	1.25x	1.11x			1.31x	1.24x	1.10x		5
2004		1.91x	1.34x	1.12x			1.60x	1.34x	0.93x		9
2005	1.37x	1.12x	1.00x	0.74x	0.51x	1.37x	1.10x	0.98x	0.72x	0.49x	27
2006	1.56x	1.16x	0.69x	0.47x	0.28x	1.31x	1.09x	0.69x	0.38x	0.23x	32
2007	1.64x	1.40x	1.17x	0.83x	0.38x	1.64x	1.36x	1.14x	0.73x	0.37x	53
2008	1.70x	1.54x	1.30x	1.07x	0.58x	1.68x	1.54x	1.30x	1.03x	0.50x	32
2009	1.95x	1.57x	1.38x	1.29x	1.03x	1.86x	1.57x	1.37x	1.15x	0.61x	19
2010	2.05x	1.70x	1.57x	1.31x	1.10x	1.76x	1.63x	1.50x	1.16x	0.95x	20
2011	2.32x	1.91x	1.62x	1.44x	1.21x	2.02x	1.74x	1.49x	1.21x	0.99x	41
2012	1.98x	1.55x	1.43x	1.34x	1.19x	1.85x	1.49x	1.34x	1.01x	0.82x	44
2013	1.71x	1.61x	1.45x	1.21x	1.04x	1.60x	1.48x	1.24x	0.67x	0.44x	46
2014	1.89x	1.67x	1.49x	1.29x	1.17x	1.43x	1.34x	0.98x	0.65x	0.31x	55
2015	1.76x	1.65x	1.40x	1.24x	1.13x	1.57x	1.28x	0.93x	0.49x	0.20x	75
2016	1.96x	1.62x	1.43x	1.27x	1.03x	1.45x	1.13x	0.68x	0.45x	0.13x	51
2017	2.00x	1.73x	1.46x	1.25x	1.07x	1.29x	0.84x	0.47x	0.21x	0.08x	67
2018	1.64x	1.51x	1.27x	1.11x	1.01x	0.82x	0.52x	0.28x	0.13x	0.01x	74
2019	1.63x	1.39x	1.23x	1.10x	0.98x	0.60x	0.40x	0.21x	0.10x	0.01x	53
2020	1.41x	1.33x	1.15x	1.03x	0.94x	0.36x	0.25x	0.07x	0.01x	0.00x	38
2021	1.40x	1.22x	1.09x	0.98x	0.86x	0.27x	0.14x	0.02x	0.00x	0.00x	52

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Real estate

## Quarterly return

Quarter end	1-quarter return
Q1 2001	4.43%
Q2 2001	1.46%
Q3 2001	0.32%
Q4 2001	1.33%
Q1 2002	2.14%
Q2 2002	1.33%
Q3 2002	0.43%
Q4 2002	-0.90%
Q1 2003	-2.15%
Q2 2003	0.94%
Q3 2003	4.95%
Q4 2003	9.79%
Q1 2004	-4.22%
Q2 2004	4.78%
Q3 2004	0.78%
Q4 2004	19.14%
Q1 2005	-3.64%
Q2 2005	5.26%
Q3 2005	9.67%
Q4 2005	13.70%
Q1 2006	2.68%
Q2 2006	8.00%
Q3 2006	9.89%
Q4 2006	20.46%

Quarter end	1-quarter return
Q1 2007	2.20%
Q2 2007	8.89%
Q3 2007	1.61%
Q4 2007	6.06%
Q1 2008	-2.43%
Q2 2008	-4.64%
Q3 2008	-8.03%
Q4 2008	-19.22%
Q1 2009	-24.27%
Q2 2009	-13.85%
Q3 2009	-7.07%
Q4 2009	-5.19%
Q1 2010	-7.08%
Q2 2010	7.13%
Q3 2010	4.00%
Q4 2010	8.89%
Q1 2011	5.86%
Q2 2011	4.03%
Q3 2011	-0.12%
Q4 2011	0.08%
Q1 2012	4.17%
Q2 2012	0.09%
Q3 2012	5.45%
Q4 2012	2.28%

Quarter end	1-quarter return
Q1 2013	2.95%
Q2 2013	4.46%
Q3 2013	1.52%
Q4 2013	8.25%
Q1 2014	3.42%
Q2 2014	3.31%
Q3 2014	2.99%
Q4 2014	4.40%
Q1 2015	1.60%
Q2 2015	4.53%
Q3 2015	2.38%
Q4 2015	1.41%
Q1 2016	2.82%
Q2 2016	2.19%
Q3 2016	3.01%
Q4 2016	1.40%
Q1 2017	4.05%
Q2 2017	3.40%
Q3 2017	4.23%
Q4 2017	2.24%
Q1 2018	2.35%
Q2 2018	2.73%
Q3 2018	1.45%
Q4 2018	-0.35%

Quarter end	1-quarter return
Q1 2019	1.70%
Q2 2019	2.26%
Q3 2019	3.35%
Q4 2019	2.05%
Q1 2020	-2.28%
Q2 2020	-0.83%
Q3 2020	3.08%
Q4 2020	2.41%
Q1 2021	5.83%
Q2 2021	5.37%
Q3 2021	7.47%
Q4 2021	8.06%
Q1 2022	7.17%
Q2 2022	2.64%
Q3 2022*	0.49%

\*Preliminary figure

# Real assets

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# Real assets

## IRRs by vintage

### Pooled IRRs

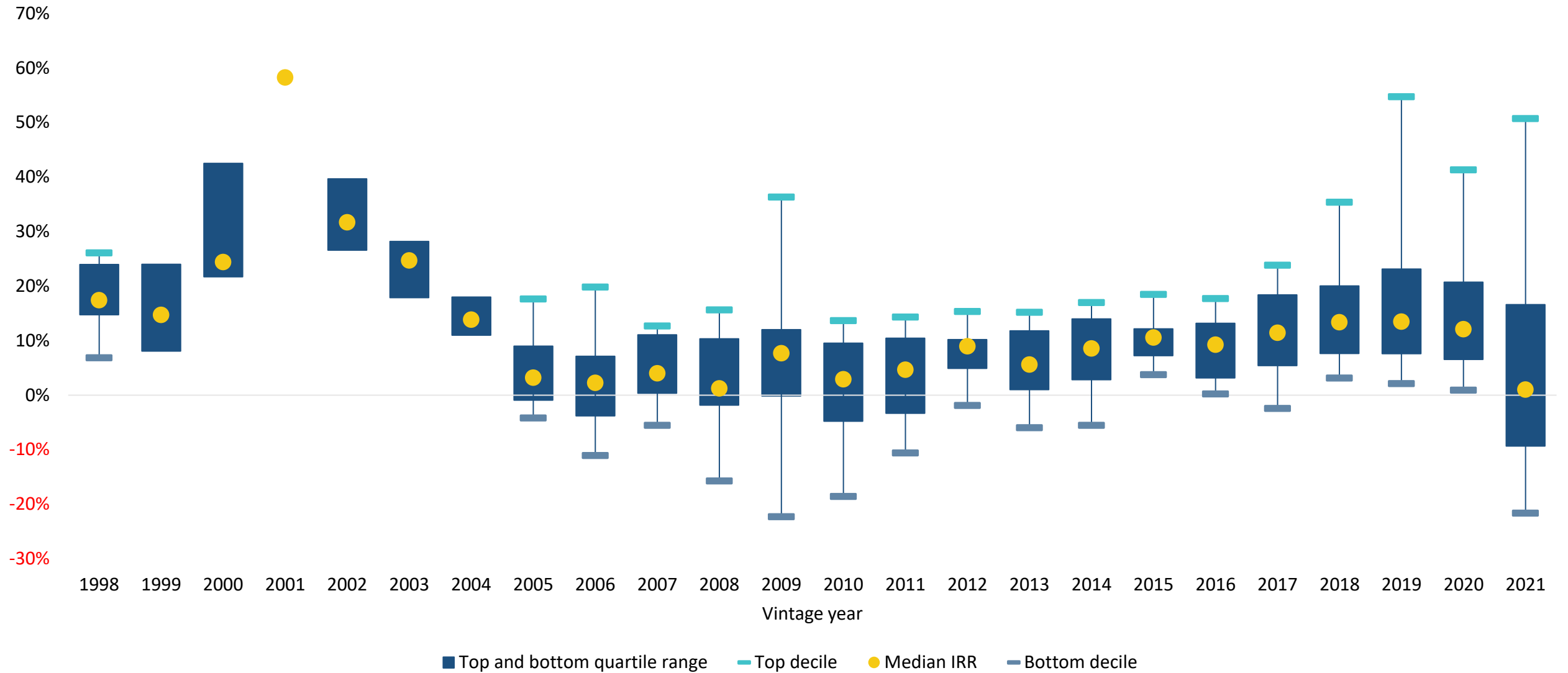
### IRR quantiles

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
1998	16.83%	18.64%	3	26.10%	23.98%	17.42%	14.75%	6.85%	9.40%	10
1999	25.39%	25.39%	1		24.00%	14.70%	8.10%		12.96%	5
2000					42.51%	24.43%	21.70%		22.64%	6
2001	49.72%	49.72%	1			58.25%			15.63%	2
2002	30.86%	34.13%	3		39.67%	31.70%	26.61%		11.73%	4
2003	29.00%	29.52%	2		28.20%	24.70%	17.90%		23.99%	9
2004	22.61%	20.34%	4		18.00%	13.83%	11.00%		8.62%	9
2005	8.18%	9.69%	9	17.63%	8.99%	3.20%	-0.93%	-4.21%	9.03%	17
2006	4.76%	1.57%	13	19.83%	7.15%	2.27%	-3.79%	-11.07%	14.26%	18
2007	4.29%	4.79%	19	12.66%	11.06%	4.01%	0.37%	-5.55%	12.17%	30
2008	1.96%	3.05%	21	15.64%	10.34%	1.23%	-1.84%	-15.75%	11.74%	23
2009	2.84%	3.65%	12	36.33%	12.02%	7.70%	-0.14%	-22.29%	79.77%	14
2010	4.93%	5.99%	22	13.66%	9.54%	2.93%	-4.78%	-18.59%	13.55%	24
2011	4.80%	3.03%	21	14.30%	10.45%	4.68%	-3.31%	-10.59%	11.07%	26
2012	7.02%	6.78%	24	15.32%	10.20%	8.97%	4.91%	-1.91%	9.20%	24
2013	9.27%	7.10%	28	15.18%	11.80%	5.61%	1.00%	-5.99%	8.12%	27
2014	9.78%	7.60%	45	16.97%	14.00%	8.55%	2.83%	-5.55%	11.90%	44
2015	10.24%	10.59%	36	18.46%	12.17%	10.55%	7.23%	3.74%	34.21%	30
2016	10.42%	12.05%	44	17.72%	13.21%	9.27%	3.18%	0.23%	9.07%	42
2017	13.52%	9.86%	37	23.81%	18.40%	11.43%	5.43%	-2.43%	10.65%	34
2018	13.44%	11.98%	46	35.36%	20.05%	13.38%	7.64%	3.12%	12.98%	39
2019	12.93%	17.99%	34	54.73%	23.13%	13.49%	7.60%	2.11%	28.86%	37
2020	19.41%	20.90%	21	41.31%	20.73%	12.09%	6.56%	0.91%	34.04%	27
2021	9.25%	14.27%	26	50.72%	16.62%	1.03%	-9.31%	-21.66%	55.39%	22

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Real assets

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998	16.83%	7.88%	1.92	16.83%			3
1999	25.39%	7.20%	1.82	25.39%			1
2000							
2001	49.72%	7.73%	2.35	49.72%	6.75%	2.09	1
2002	30.86%	8.69%	1.45	30.86%	6.71%	1.40	3
2003	29.00%	10.62%	1.75	29.00%	6.44%	1.69	2
2004	22.61%	9.47%	1.51	22.61%	5.80%	1.38	4
2005	8.18%	9.61%	1.15	8.18%	5.35%	1.09	9
2006	4.76%	9.61%	0.88	4.76%	5.06%	0.99	13
2007	4.29%	9.38%	0.79	4.29%	4.88%	0.97	19
2008	1.96%	10.34%	0.58	1.96%	4.21%	0.89	21
2009	2.84%	15.34%	0.64	2.84%	5.69%	0.97	12
2010	4.93%	13.38%	0.65	4.93%	4.55%	1.09	22
2011	4.80%	12.95%	0.69	4.80%	3.52%	1.10	21
2012	7.02%	13.68%	0.78	7.02%	3.19%	1.16	24
2013	9.27%	13.56%	0.86	9.27%	3.28%	1.27	28
2014	9.78%	12.38%	0.89	9.78%	3.82%	1.20	45
2015	10.24%	12.05%	0.89	10.24%	3.83%	1.18	36
2016	10.42%	14.75%	0.90	10.42%	5.47%	1.16	44
2017	13.52%	13.46%	1.01	13.52%	5.37%	1.20	37
2018	13.44%	12.00%	1.01	13.44%	6.06%	1.11	46
2019	12.93%	15.43%	1.01	12.93%	7.34%	1.06	34
2020	19.41%	15.85%	1.12	19.41%	9.88%	1.10	21
2021	9.25%	6.44%	1.08	9.25%	10.26%	1.02	26

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Real assets

## Multiples by vintage

Vintage year	Pooled multiples			Equal-weighted pooled multiples			Number of funds
	TVPI	DPI	RVPI	TVPI	DPI	RVPI	
1998	2.01x	1.99x	0.02x	2.20x	2.18x	0.02x	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	2.31x	2.30x	0.02x	2.41x	2.39x	0.02x	2
2004	1.75x	1.75x	0.00x	1.77x	1.77x	0.00x	4
2005	1.45x	1.40x	0.04x	1.57x	1.45x	0.12x	9
2006	1.26x	1.21x	0.04x	1.09x	1.02x	0.07x	13
2007	1.23x	1.21x	0.02x	1.28x	1.23x	0.05x	19
2008	1.11x	0.98x	0.14x	1.20x	0.91x	0.29x	21
2009	1.15x	0.94x	0.20x	1.19x	0.91x	0.29x	12
2010	1.30x	1.09x	0.21x	1.35x	0.96x	0.40x	22
2011	1.26x	0.88x	0.38x	1.18x	0.77x	0.42x	21
2012	1.35x	0.92x	0.43x	1.37x	0.79x	0.58x	24
2013	1.51x	0.79x	0.72x	1.37x	0.73x	0.65x	28
2014	1.43x	0.65x	0.79x	1.35x	0.63x	0.72x	45
2015	1.43x	0.49x	0.93x	1.45x	0.52x	0.94x	36
2016	1.39x	0.51x	0.89x	1.48x	0.63x	0.86x	44
2017	1.42x	0.31x	1.10x	1.31x	0.31x	1.01x	37
2018	1.27x	0.20x	1.07x	1.29x	0.25x	1.05x	46
2019	1.19x	0.13x	1.06x	1.34x	0.17x	1.17x	34
2020	1.18x	0.12x	1.06x	1.30x	0.18x	1.12x	21
2021	1.05x	0.04x	1.01x	1.11x	0.13x	0.98x	26

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
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			2.41x					2.39x			2
2004		1.91x	1.74x	1.60x			1.91x	1.74x	1.60x		4
2005		1.74x	1.30x	1.02x			1.74x	1.29x	1.02x		9
2006	1.78x	1.17x	0.93x	0.75x	0.62x	1.78x	1.16x	0.91x	0.61x	0.54x	13
2007	1.80x	1.48x	1.15x	1.05x	0.91x	1.76x	1.40x	1.14x	0.99x	0.87x	19
2008	1.89x	1.57x	0.96x	0.63x	0.54x	1.84x	1.36x	0.65x	0.52x	0.14x	21
2009	2.10x	1.39x	1.27x	0.85x	0.39x	1.34x	1.21x	0.97x	0.44x	0.27x	12
2010	2.34x	1.70x	1.34x	0.84x	0.65x	1.63x	1.30x	0.71x	0.62x	0.33x	22
2011	1.89x	1.46x	1.23x	0.96x	0.47x	1.39x	1.17x	0.64x	0.51x	0.33x	21
2012	1.92x	1.54x	1.38x	1.07x	0.90x	1.38x	1.01x	0.84x	0.49x	0.25x	24
2013	1.91x	1.70x	1.39x	1.09x	0.82x	1.51x	0.95x	0.51x	0.34x	0.19x	28
2014	1.87x	1.59x	1.37x	1.12x	0.78x	1.08x	0.86x	0.64x	0.37x	0.13x	45
2015	1.91x	1.58x	1.40x	1.25x	1.09x	1.07x	0.65x	0.47x	0.28x	0.12x	36
2016	1.88x	1.52x	1.28x	1.16x	0.97x	0.87x	0.64x	0.42x	0.21x	0.09x	44
2017	1.73x	1.55x	1.25x	1.08x	0.96x	0.71x	0.40x	0.18x	0.06x	0.01x	37
2018	1.67x	1.46x	1.26x	1.14x	1.07x	0.54x	0.41x	0.17x	0.06x	0.01x	46
2019	1.57x	1.43x	1.18x	1.06x	0.98x	0.48x	0.24x	0.09x	0.01x	0.00x	34
2020	1.62x	1.32x	1.13x	1.04x	1.00x	0.52x	0.12x	0.03x	0.00x	0.00x	21
2021	1.47x	1.18x	1.00x	0.92x	0.77x	0.24x	0.08x	0.03x	0.00x	0.00x	26

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	0.46%
Q4 2003	13.41%
Q1 2004	3.11%
Q2 2004	0.60%
Q3 2004	10.67%
Q4 2004	19.32%
Q1 2005	21.36%
Q2 2005	32.08%
Q3 2005	12.35%
Q4 2005	0.54%
Q1 2006	7.93%
Q2 2006	9.80%
Q3 2006	4.58%
Q4 2006	7.60%

Quarter end	1-quarter return
Q1 2007	4.10%
Q2 2007	6.02%
Q3 2007	6.95%
Q4 2007	8.85%
Q1 2008	2.02%
Q2 2008	4.11%
Q3 2008	2.90%
Q4 2008	-5.73%
Q1 2009	-3.92%
Q2 2009	-0.21%
Q3 2009	3.84%
Q4 2009	3.58%
Q1 2010	-0.38%
Q2 2010	0.32%
Q3 2010	4.15%
Q4 2010	8.53%
Q1 2011	4.61%
Q2 2011	4.21%
Q3 2011	-1.47%
Q4 2011	4.55%
Q1 2012	2.30%
Q2 2012	-2.25%
Q3 2012	0.77%
Q4 2012	3.57%

Quarter end	1-quarter return
Q1 2013	3.79%
Q2 2013	-0.67%
Q3 2013	2.49%
Q4 2013	1.42%
Q1 2014	3.69%
Q2 2014	6.76%
Q3 2014	2.78%
Q4 2014	-4.79%
Q1 2015	-1.39%
Q2 2015	2.27%
Q3 2015	-3.20%
Q4 2015	-2.14%
Q1 2016	-0.24%
Q2 2016	5.40%
Q3 2016	2.85%
Q4 2016	4.70%
Q1 2017	3.70%
Q2 2017	2.48%
Q3 2017	1.89%
Q4 2017	2.02%
Q1 2018	2.59%
Q2 2018	2.89%
Q3 2018	4.97%
Q4 2018	-1.94%

Quarter end	1-quarter return
Q1 2019	1.28%
Q2 2019	-1.19%
Q3 2019	-0.31%
Q4 2019	-0.17%
Q1 2020	-9.82%
Q2 2020	2.98%
Q3 2020	1.79%
Q4 2020	4.46%
Q1 2021	4.52%
Q2 2021	7.30%
Q3 2021	2.37%
Q4 2021	6.47%
Q1 2022	6.45%
Q2 2022	2.95%
Q3 2022*	4.57%

\*Preliminary figure

# Private debt

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# Private debt

## IRRs by vintage

### Pooled IRRs

### IRR quantiles

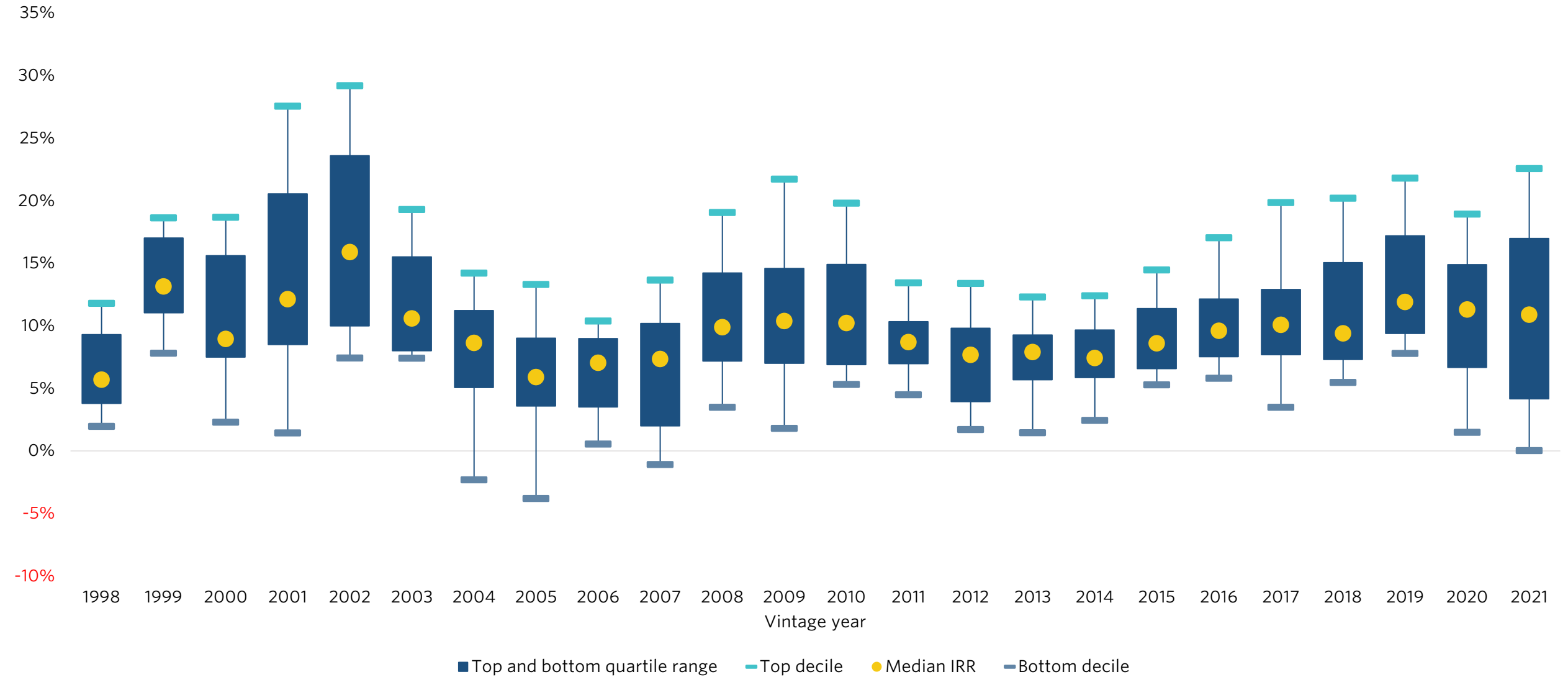
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
1998	3.40%	4.09%	3	11.80%	9.30%	5.69%	3.80%	1.96%	6.90%	15
1999	11.46%	12.95%	4	18.63%	17.03%	13.14%	11.05%	7.81%	5.52%	12
2000	8.94%	5.10%	8	18.67%	15.62%	8.95%	7.50%	2.29%	9.46%	17
2001	25.70%	22.19%	7	27.56%	20.55%	12.13%	8.50%	1.44%	10.87%	16
2002	15.98%	18.03%	11	29.19%	23.60%	15.90%	10.01%	7.42%	17.98%	15
2003	13.40%	13.23%	8	19.30%	15.52%	10.59%	8.02%	7.41%	6.49%	16
2004	6.30%	7.31%	10	14.20%	11.22%	8.63%	5.07%	-2.31%	9.14%	20
2005	7.93%	9.19%	14	13.30%	9.02%	5.90%	3.60%	-3.82%	6.71%	25
2006	6.82%	5.81%	28	10.38%	8.98%	7.05%	3.52%	0.55%	4.82%	36
2007	5.79%	6.04%	27	13.66%	10.19%	7.34%	2.00%	-1.10%	8.69%	31
2008	13.05%	11.34%	30	19.06%	14.22%	9.88%	7.18%	3.49%	15.91%	48
2009	8.76%	10.38%	22	21.72%	14.60%	10.38%	7.01%	1.80%	10.66%	26
2010	13.25%	11.91%	34	19.81%	14.91%	10.23%	6.90%	5.31%	8.04%	41
2011	8.92%	8.57%	24	13.42%	10.33%	8.69%	6.98%	4.49%	6.24%	28
2012	7.07%	6.91%	34	13.39%	9.81%	7.68%	3.95%	1.71%	5.95%	46
2013	6.84%	7.71%	40	12.31%	9.26%	7.90%	5.69%	1.46%	6.39%	54
2014	6.36%	7.74%	52	12.40%	9.67%	7.43%	5.86%	2.43%	5.06%	48
2015	7.31%	6.05%	67	14.47%	11.38%	8.60%	6.58%	5.27%	4.50%	57
2016	9.56%	9.73%	54	17.04%	12.15%	9.60%	7.54%	5.80%	5.87%	51
2017	8.23%	8.95%	65	19.85%	12.90%	10.08%	7.70%	3.48%	6.41%	67
2018	8.57%	8.87%	67	20.21%	15.05%	9.40%	7.32%	5.47%	9.19%	64
2019	12.52%	12.36%	57	21.80%	17.20%	11.90%	9.40%	7.79%	6.42%	61
2020	8.72%	8.82%	58	18.93%	14.89%	11.31%	6.68%	1.48%	9.62%	58
2021	4.49%	8.09%	77	22.56%	16.99%	10.90%	4.16%	0.02%	14.46%	58

Source: PitchBook | Geography: Global | Data as of June 30, 2022



# Private debt

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private debt

## PMEs by vintage

Vintage year	S&P 500			Morningstar Global High Yield			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1998	3.40%	7.88%	1.11	3.40%			3
1999	11.46%	7.20%	1.50	11.46%			4
2000	8.94%	6.90%	1.18	8.94%	6.27%	0.97	8
2001	25.70%	7.73%	1.63	25.70%	6.54%	1.45	7
2002	15.98%	8.69%	1.30	15.98%	6.96%	1.20	11
2003	13.40%	10.62%	1.35	13.40%	7.11%	1.23	8
2004	6.30%	9.47%	1.03	6.30%	6.13%	0.96	10
2005	7.93%	9.61%	1.19	7.93%	5.92%	1.00	14
2006	6.82%	9.61%	1.01	6.82%	6.09%	0.91	28
2007	5.79%	9.38%	0.94	5.79%	5.71%	0.85	27
2008	13.05%	10.34%	1.03	13.05%	6.20%	1.00	30
2009	8.76%	15.34%	0.83	8.76%	8.59%	1.00	22
2010	13.25%	13.38%	0.96	13.25%	5.51%	1.21	34
2011	8.92%	12.95%	0.92	8.92%	4.72%	1.10	24
2012	7.07%	13.68%	0.79	7.07%	4.70%	1.07	34
2013	6.84%	13.56%	0.85	6.84%	3.72%	1.08	40
2014	6.36%	12.38%	0.79	6.36%	3.11%	1.08	52
2015	7.31%	12.05%	0.84	7.31%	3.69%	1.10	67
2016	9.56%	14.75%	0.90	9.56%	5.31%	1.17	54
2017	8.23%	13.46%	0.87	8.23%	3.16%	1.14	65
2018	8.57%	12.00%	0.89	8.57%	2.01%	1.15	67
2019	12.52%	15.43%	0.98	12.52%	2.51%	1.19	57
2020	8.72%	15.85%	1.02	8.72%	1.60%	1.14	58
2021	4.49%	6.44%	1.02	4.49%	-6.47%	1.10	77

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private debt

## Multiples by vintage

### Pooled multiples

### Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1998	1.19x	1.18x	0.01x	1.22x	1.20x	0.02x	3
1999	1.41x	1.41x	0.00x	1.51x	1.51x	0.00x	4
2000	1.36x	1.35x	0.02x	1.23x	1.21x	0.02x	8
2001	2.22x	2.21x	0.00x	2.14x	2.14x	0.00x	7
2002	1.76x	1.73x	0.03x	1.73x	1.71x	0.02x	11
2003	1.81x	1.81x	0.00x	1.88x	1.88x	0.00x	8
2004	1.30x	1.29x	0.02x	1.39x	1.37x	0.02x	10
2005	1.57x	1.52x	0.04x	1.78x	1.70x	0.08x	14
2006	1.39x	1.35x	0.03x	1.33x	1.30x	0.03x	28
2007	1.22x	1.21x	0.01x	1.27x	1.25x	0.02x	27
2008	1.62x	1.58x	0.03x	1.50x	1.45x	0.05x	30
2009	1.37x	1.34x	0.04x	1.39x	1.35x	0.04x	22
2010	1.50x	1.41x	0.09x	1.49x	1.36x	0.12x	34
2011	1.35x	1.18x	0.17x	1.37x	1.16x	0.20x	24
2012	1.32x	1.14x	0.17x	1.32x	1.08x	0.24x	34
2013	1.25x	1.07x	0.18x	1.31x	1.03x	0.28x	40
2014	1.28x	0.88x	0.40x	1.33x	0.95x	0.38x	52
2015	1.26x	0.75x	0.51x	1.22x	0.75x	0.48x	67
2016	1.27x	0.58x	0.69x	1.29x	0.67x	0.62x	54
2017	1.23x	0.53x	0.69x	1.24x	0.58x	0.66x	65
2018	1.20x	0.30x	0.89x	1.19x	0.40x	0.80x	67
2019	1.21x	0.35x	0.85x	1.20x	0.35x	0.84x	57
2020	1.08x	0.18x	0.90x	1.09x	0.21x	0.88x	58
2021	1.03x	0.13x	0.90x	1.06x	0.15x	0.90x	77

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998			1.25x					1.24x			3
1999		1.59x	1.44x	1.36x			1.59x	1.44x	1.36x		4
2000		1.51x	1.38x	1.19x			1.51x	1.32x	1.17x		8
2001		2.53x	2.01x	1.72x			2.53x	2.01x	1.72x		7
2002	2.41x	1.89x	1.69x	1.43x	1.33x	2.21x	1.89x	1.69x	1.43x	1.33x	11
2003		1.77x	1.54x	1.47x			1.77x	1.54x	1.47x		8
2004	1.92x	1.65x	1.52x	1.19x	0.65x	1.91x	1.65x	1.48x	1.17x	0.63x	10
2005	1.57x	1.52x	1.34x	1.24x	0.86x	1.57x	1.51x	1.32x	1.21x	0.77x	14
2006	1.69x	1.40x	1.27x	1.11x	0.93x	1.68x	1.35x	1.25x	1.11x	0.83x	28
2007	1.70x	1.56x	1.24x	1.08x	0.73x	1.70x	1.52x	1.22x	1.06x	0.70x	27
2008	1.97x	1.65x	1.35x	1.20x	1.04x	1.97x	1.65x	1.34x	1.16x	1.02x	30
2009	1.91x	1.54x	1.43x	1.16x	1.05x	1.83x	1.54x	1.37x	1.16x	0.99x	22
2010	1.75x	1.62x	1.41x	1.32x	1.27x	1.71x	1.51x	1.32x	1.18x	1.14x	34
2011	1.71x	1.53x	1.32x	1.19x	0.97x	1.53x	1.27x	1.16x	0.93x	0.74x	24
2012	1.68x	1.34x	1.24x	1.14x	1.04x	1.39x	1.24x	1.12x	0.98x	0.76x	34
2013	1.73x	1.36x	1.25x	1.11x	1.04x	1.36x	1.21x	1.11x	0.95x	0.59x	40
2014	1.72x	1.43x	1.30x	1.12x	1.04x	1.27x	1.13x	0.98x	0.71x	0.47x	52
2015	1.46x	1.36x	1.23x	1.11x	0.94x	1.11x	0.95x	0.82x	0.57x	0.32x	67
2016	1.44x	1.34x	1.27x	1.17x	1.06x	0.98x	0.83x	0.66x	0.40x	0.22x	54
2017	1.47x	1.34x	1.21x	1.12x	1.01x	0.87x	0.72x	0.60x	0.36x	0.26x	65
2018	1.46x	1.29x	1.18x	1.10x	1.01x	0.76x	0.51x	0.36x	0.18x	0.09x	67
2019	1.40x	1.24x	1.16x	1.11x	1.04x	0.66x	0.49x	0.28x	0.15x	0.06x	57
2020	1.30x	1.17x	1.09x	1.02x	0.91x	0.45x	0.27x	0.16x	0.04x	0.00x	58
2021	1.21x	1.14x	1.05x	1.00x	0.91x	0.33x	0.22x	0.04x	0.00x	0.00x	77

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Private debt

## Quarterly return

Quarter end	1-quarter return
Q1 2001	1.93%
Q2 2001	2.18%
Q3 2001	-0.08%
Q4 2001	0.67%
Q1 2002	2.62%
Q2 2002	-2.81%
Q3 2002	-0.49%
Q4 2002	1.40%
Q1 2003	3.12%
Q2 2003	6.03%
Q3 2003	-0.39%
Q4 2003	10.27%
Q1 2004	5.18%
Q2 2004	6.31%
Q3 2004	3.61%
Q4 2004	14.80%
Q1 2005	3.67%
Q2 2005	-0.96%
Q3 2005	5.56%
Q4 2005	3.26%
Q1 2006	4.33%
Q2 2006	4.89%
Q3 2006	3.49%
Q4 2006	8.32%

Quarter end	1-quarter return
Q1 2007	1.73%
Q2 2007	8.05%
Q3 2007	2.32%
Q4 2007	1.43%
Q1 2008	-1.64%
Q2 2008	-0.11%
Q3 2008	-9.03%
Q4 2008	-14.07%
Q1 2009	-4.13%
Q2 2009	10.87%
Q3 2009	11.58%
Q4 2009	5.13%
Q1 2010	6.30%
Q2 2010	2.08%
Q3 2010	4.73%
Q4 2010	8.27%
Q1 2011	4.53%
Q2 2011	2.77%
Q3 2011	-5.03%
Q4 2011	0.73%
Q1 2012	6.10%
Q2 2012	-0.26%
Q3 2012	6.28%
Q4 2012	2.82%

Quarter end	1-quarter return
Q1 2013	5.29%
Q2 2013	1.97%
Q3 2013	3.35%
Q4 2013	1.09%
Q1 2014	3.88%
Q2 2014	2.24%
Q3 2014	2.54%
Q4 2014	1.78%
Q1 2015	5.45%
Q2 2015	-0.77%
Q3 2015	0.29%
Q4 2015	-0.26%
Q1 2016	2.05%
Q2 2016	0.36%
Q3 2016	4.60%
Q4 2016	1.92%
Q1 2017	2.18%
Q2 2017	2.90%
Q3 2017	2.09%
Q4 2017	3.81%
Q1 2018	3.24%
Q2 2018	0.38%
Q3 2018	-0.83%
Q4 2018	1.13%

Quarter end	1-quarter return
Q1 2019	1.34%
Q2 2019	1.58%
Q3 2019	2.47%
Q4 2019	2.29%
Q1 2020	-6.79%
Q2 2020	2.21%
Q3 2020	2.70%
Q4 2020	4.31%
Q1 2021	4.47%
Q2 2021	7.49%
Q3 2021	0.70%
Q4 2021	2.99%
Q1 2022	1.72%
Q2 2022	-2.04%
Q3 2022*	1.31%

\*Preliminary figure

# Funds of funds

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# Funds of funds

## IRRs by vintage

### Pooled IRRs

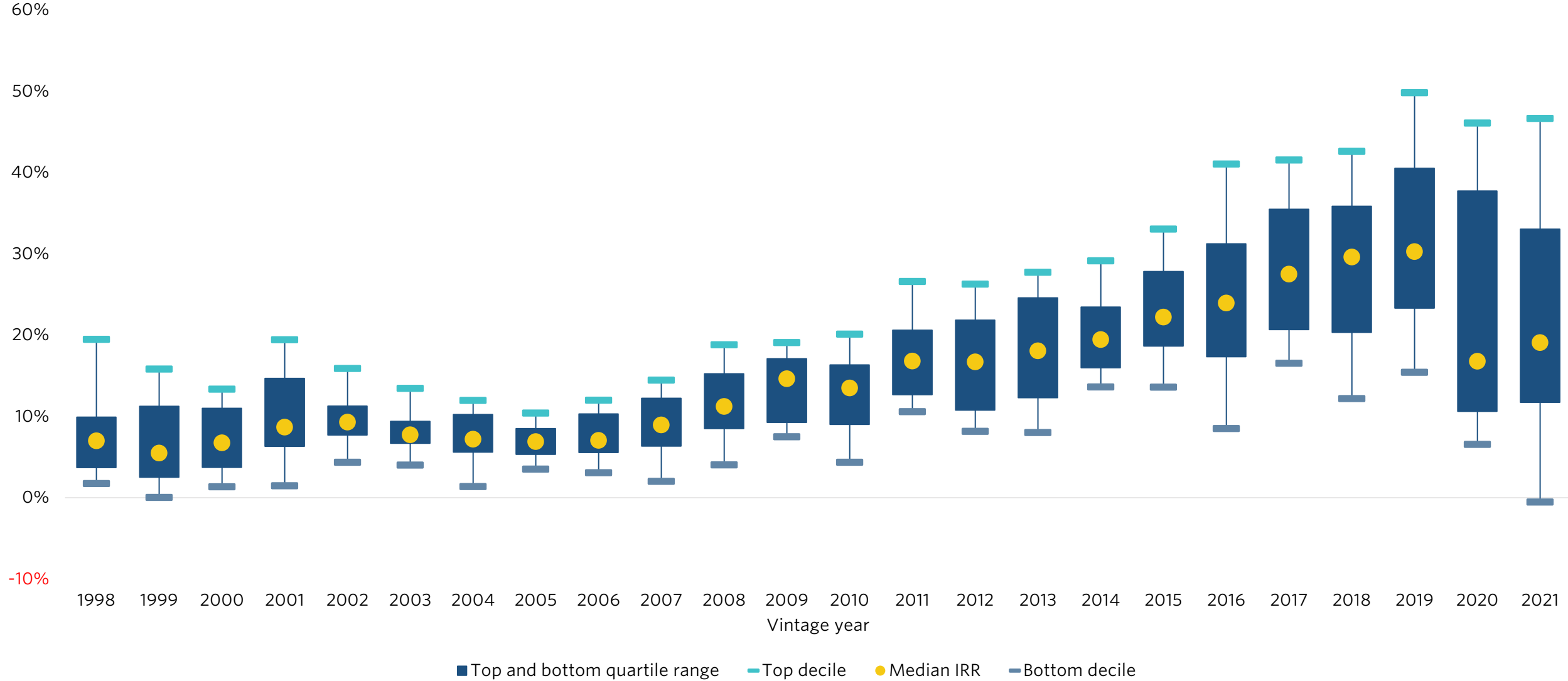
### IRR quantiles

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
1998	7.86%	7.64%	3	19.48%	9.91%	6.99%	3.71%	1.72%	8.47%	15
1999	5.74%	5.40%	9	15.83%	11.26%	5.48%	2.53%	0.02%	5.79%	34
2000	7.82%	7.84%	8	13.35%	11.00%	6.75%	3.73%	1.33%	5.41%	37
2001	10.81%	7.63%	8	19.42%	14.68%	8.67%	6.33%	1.47%	9.45%	34
2002	8.08%	7.72%	3	15.90%	11.27%	9.30%	7.70%	4.36%	5.67%	25
2003	7.31%	6.68%	6	13.44%	9.39%	7.75%	6.69%	4.01%	4.13%	26
2004	8.18%	8.09%	9	11.95%	10.23%	7.20%	5.62%	1.36%	7.91%	43
2005	6.67%	6.61%	21	10.40%	8.49%	6.90%	5.34%	3.52%	10.83%	63
2006	8.62%	8.04%	36	12.00%	10.30%	7.05%	5.56%	3.07%	3.59%	73
2007	10.05%	9.01%	43	14.46%	12.25%	8.95%	6.36%	1.99%	6.25%	80
2008	3.81%	11.22%	38	18.80%	15.24%	11.23%	8.50%	4.02%	6.41%	70
2009	13.35%	12.96%	31	19.08%	17.10%	14.64%	9.27%	7.50%	5.44%	43
2010	13.59%	13.85%	32	20.11%	16.34%	13.51%	9.02%	4.34%	6.27%	44
2011	16.66%	18.10%	39	26.60%	20.62%	16.80%	12.67%	10.59%	6.43%	48
2012	17.29%	17.10%	40	26.29%	21.86%	16.71%	10.78%	8.16%	7.35%	42
2013	17.50%	17.97%	44	27.73%	24.59%	18.08%	12.30%	8.00%	7.57%	41
2014	18.52%	20.62%	42	29.15%	23.45%	19.46%	16.00%	13.62%	30.29%	43
2015	23.43%	22.54%	42	33.06%	27.84%	22.22%	18.65%	13.60%	7.89%	47
2016	24.31%	24.86%	33	41.05%	31.25%	23.96%	17.36%	8.49%	12.57%	34
2017	32.04%	31.26%	29	41.54%	35.50%	27.50%	20.70%	16.54%	10.46%	37
2018	24.21%	25.95%	32	42.62%	35.87%	29.61%	20.35%	12.20%	13.11%	36
2019	35.56%	29.97%	28	49.83%	40.54%	30.28%	23.34%	15.41%	16.12%	32
2020	22.85%	19.96%	17	46.10%	37.75%	16.78%	10.64%	6.55%	22.73%	14
2021	27.28%	26.62%	21	46.68%	33.05%	19.08%	11.74%	-0.55%	22.25%	25

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Funds of funds

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022



# Funds of funds

## PMEs by vintage

Vintage year	S&P 500			Morningstar Global			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1998	7.86%	7.88%	1.25	7.86%			3
1999	5.74%	7.20%	1.06	5.74%	6.69%	0.93	9
2000	7.82%	6.90%	1.07	7.82%	6.03%	0.97	8
2001	10.81%	7.73%	1.11	10.81%	6.99%	1.03	8
2002	8.08%	8.69%	1.06	8.08%	8.06%	1.02	3
2003	7.31%	10.62%	1.01	7.31%	9.68%	1.07	6
2004	8.18%	9.47%	1.01	8.18%	8.06%	1.08	9
2005	6.67%	9.61%	0.91	6.67%	7.80%	1.02	21
2006	8.62%	9.61%	0.88	8.62%	7.19%	1.05	36
2007	10.05%	9.38%	0.89	10.05%	6.52%	1.07	43
2008	3.81%	10.34%	0.57	3.81%	6.89%	0.71	38
2009	13.35%	15.34%	0.96	13.35%	12.04%	1.18	31
2010	13.59%	13.38%	0.99	13.59%	9.29%	1.22	32
2011	16.66%	12.95%	1.13	16.66%	8.53%	1.37	39
2012	17.29%	13.68%	1.21	17.29%	9.61%	1.46	40
2013	17.50%	13.56%	1.20	17.50%	9.21%	1.42	44
2014	18.52%	12.38%	1.22	18.52%	8.26%	1.42	42
2015	23.43%	12.05%	1.36	23.43%	8.47%	1.56	42
2016	24.31%	14.75%	1.36	24.31%	11.36%	1.55	33
2017	32.04%	13.46%	1.44	32.04%	9.80%	1.59	29
2018	24.21%	12.00%	1.24	24.21%	7.18%	1.37	32
2019	35.56%	15.43%	1.35	35.56%	10.78%	1.44	28
2020	22.85%	15.85%	1.17	22.85%	11.32%	1.23	17
2021	27.28%	6.44%	1.19	27.28%	-1.24%	1.25	21

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Funds of funds

## Multiples by vintage

### Pooled multiples

### Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
1998	1.49x	1.48x	0.00x	1.51x	1.51x	0.00x	3
1999	1.38x	1.35x	0.03x	1.37x	1.33x	0.04x	9
2000	1.46x	1.44x	0.02x	1.47x	1.45x	0.02x	8
2001	1.65x	1.56x	0.09x	1.53x	1.44x	0.09x	8
2002	1.46x	1.45x	0.01x	1.45x	1.44x	0.01x	3
2003	1.56x	1.55x	0.02x	1.50x	1.48x	0.02x	6
2004	1.58x	1.51x	0.07x	1.62x	1.50x	0.11x	9
2005	1.45x	1.40x	0.05x	1.46x	1.39x	0.08x	21
2006	1.71x	1.53x	0.19x	1.66x	1.50x	0.16x	36
2007	1.85x	1.51x	0.34x	1.70x	1.44x	0.27x	43
2008	1.26x	1.00x	0.26x	1.92x	1.44x	0.47x	38
2009	2.06x	1.42x	0.63x	1.96x	1.43x	0.52x	31
2010	2.08x	1.44x	0.64x	2.20x	1.40x	0.80x	32
2011	2.30x	1.40x	0.90x	2.54x	1.52x	1.02x	39
2012	2.39x	1.13x	1.26x	2.35x	1.13x	1.22x	40
2013	2.21x	0.93x	1.28x	2.26x	0.99x	1.27x	44
2014	2.14x	0.80x	1.34x	2.40x	0.87x	1.53x	42
2015	2.21x	0.56x	1.64x	2.19x	0.60x	1.59x	42
2016	2.14x	0.47x	1.67x	2.13x	0.45x	1.68x	33
2017	1.93x	0.31x	1.62x	1.92x	0.34x	1.58x	29
2018	1.65x	0.18x	1.47x	1.68x	0.21x	1.47x	32
2019	1.58x	0.13x	1.45x	1.47x	0.09x	1.38x	28
2020	1.19x	0.07x	1.12x	1.23x	0.09x	1.14x	17
2021	1.27x	0.02x	1.25x	1.25x	0.02x	1.23x	21

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998			1.56x					1.56x			3
1999		1.50x	1.28x	1.19x			1.50x	1.28x	1.14x		9
2000		1.63x	1.53x	1.25x			1.62x	1.53x	1.23x		8
2001		1.74x	1.60x	1.44x			1.71x	1.51x	1.27x		8
2002			1.41x					1.41x			3
2003		1.61x	1.55x	1.48x			1.59x	1.53x	1.47x		6
2004		1.60x	1.55x	1.41x			1.57x	1.52x	1.35x		9
2005	1.79x	1.60x	1.45x	1.34x	1.28x	1.69x	1.57x	1.40x	1.32x	1.00x	21
2006	2.04x	1.86x	1.66x	1.40x	1.28x	1.83x	1.71x	1.48x	1.27x	1.23x	36
2007	2.38x	1.98x	1.60x	1.35x	1.00x	1.97x	1.74x	1.42x	1.15x	0.80x	43
2008	2.99x	2.31x	1.81x	1.38x	0.99x	2.10x	1.78x	1.43x	1.01x	0.70x	38
2009	2.55x	2.30x	2.00x	1.67x	1.38x	2.04x	1.74x	1.43x	1.15x	0.97x	31
2010	3.97x	2.38x	1.88x	1.57x	1.26x	2.28x	1.54x	1.36x	1.11x	0.90x	32
2011	4.64x	2.71x	2.18x	1.70x	1.40x	2.51x	1.73x	1.31x	1.14x	0.88x	39
2012	3.66x	3.09x	1.93x	1.54x	1.35x	1.90x	1.38x	1.12x	0.82x	0.41x	40
2013	3.68x	2.57x	2.16x	1.55x	1.29x	1.62x	1.19x	0.95x	0.66x	0.36x	44
2014	3.70x	2.75x	2.09x	1.77x	1.40x	1.28x	1.02x	0.79x	0.52x	0.25x	42
2015	3.23x	2.61x	2.09x	1.76x	1.53x	1.01x	0.70x	0.58x	0.36x	0.27x	42
2016	3.08x	2.50x	1.96x	1.82x	1.43x	0.74x	0.66x	0.43x	0.22x	0.14x	33
2017	2.55x	2.24x	1.85x	1.60x	1.33x	0.67x	0.48x	0.24x	0.12x	0.09x	29
2018	2.34x	1.91x	1.63x	1.40x	1.12x	0.35x	0.23x	0.15x	0.05x	0.00x	32
2019	1.81x	1.65x	1.46x	1.24x	1.19x	0.25x	0.12x	0.05x	0.00x	0.00x	28
2020	1.42x	1.27x	1.10x	1.06x	0.95x	0.18x	0.10x	0.06x	0.00x	0.00x	16
2021	1.50x	1.36x	1.22x	1.13x	1.09x	0.06x	0.02x	0.00x	0.00x	0.00x	21

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Funds of funds

## Quarterly return

Quarter end	1-quarter return
Q1 2001	-8.44%
Q2 2001	-7.18%
Q3 2001	-9.65%
Q4 2001	-4.41%
Q1 2002	-10.44%
Q2 2002	-5.28%
Q3 2002	-6.94%
Q4 2002	-3.89%
Q1 2003	-7.66%
Q2 2003	3.84%
Q3 2003	0.12%
Q4 2003	-5.82%
Q1 2004	5.39%
Q2 2004	1.14%
Q3 2004	5.08%
Q4 2004	7.00%
Q1 2005	2.09%
Q2 2005	6.03%
Q3 2005	5.80%
Q4 2005	7.75%
Q1 2006	5.08%
Q2 2006	6.39%
Q3 2006	4.71%
Q4 2006	8.77%

Quarter end	1-quarter return
Q1 2007	2.53%
Q2 2007	10.74%
Q3 2007	4.14%
Q4 2007	3.83%
Q1 2008	8.65%
Q2 2008	-2.06%
Q3 2008	-6.23%
Q4 2008	-10.34%
Q1 2009	-2.95%
Q2 2009	-5.12%
Q3 2009	4.98%
Q4 2009	3.00%
Q1 2010	4.93%
Q2 2010	-0.66%
Q3 2010	4.68%
Q4 2010	2.78%
Q1 2011	3.56%
Q2 2011	5.58%
Q3 2011	-1.80%
Q4 2011	-0.21%
Q1 2012	5.20%
Q2 2012	1.04%
Q3 2012	-0.45%
Q4 2012	3.16%

Quarter end	1-quarter return
Q1 2013	2.52%
Q2 2013	3.23%
Q3 2013	2.67%
Q4 2013	3.76%
Q1 2014	2.25%
Q2 2014	6.72%
Q3 2014	1.50%
Q4 2014	1.44%
Q1 2015	4.09%
Q2 2015	5.78%
Q3 2015	2.33%
Q4 2015	0.05%
Q1 2016	1.58%
Q2 2016	1.15%
Q3 2016	4.20%
Q4 2016	0.69%
Q1 2017	3.29%
Q2 2017	3.85%
Q3 2017	3.66%
Q4 2017	1.76%
Q1 2018	5.30%
Q2 2018	5.62%
Q3 2018	2.80%
Q4 2018	1.62%

Quarter end	1-quarter return
Q1 2019	2.29%
Q2 2019	3.49%
Q3 2019	0.43%
Q4 2019	4.35%
Q1 2020	-0.52%
Q2 2020	3.73%
Q3 2020	7.40%
Q4 2020	13.27%
Q1 2021	12.17%
Q2 2021	16.99%
Q3 2021	7.12%
Q4 2021	4.72%
Q1 2022	-1.03%
Q2 2022	-0.66%
Q3 2022*	8.35%

\*Preliminary figure

# Secondaries

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# Secondaries

## IRRs by vintage

### Pooled IRRs

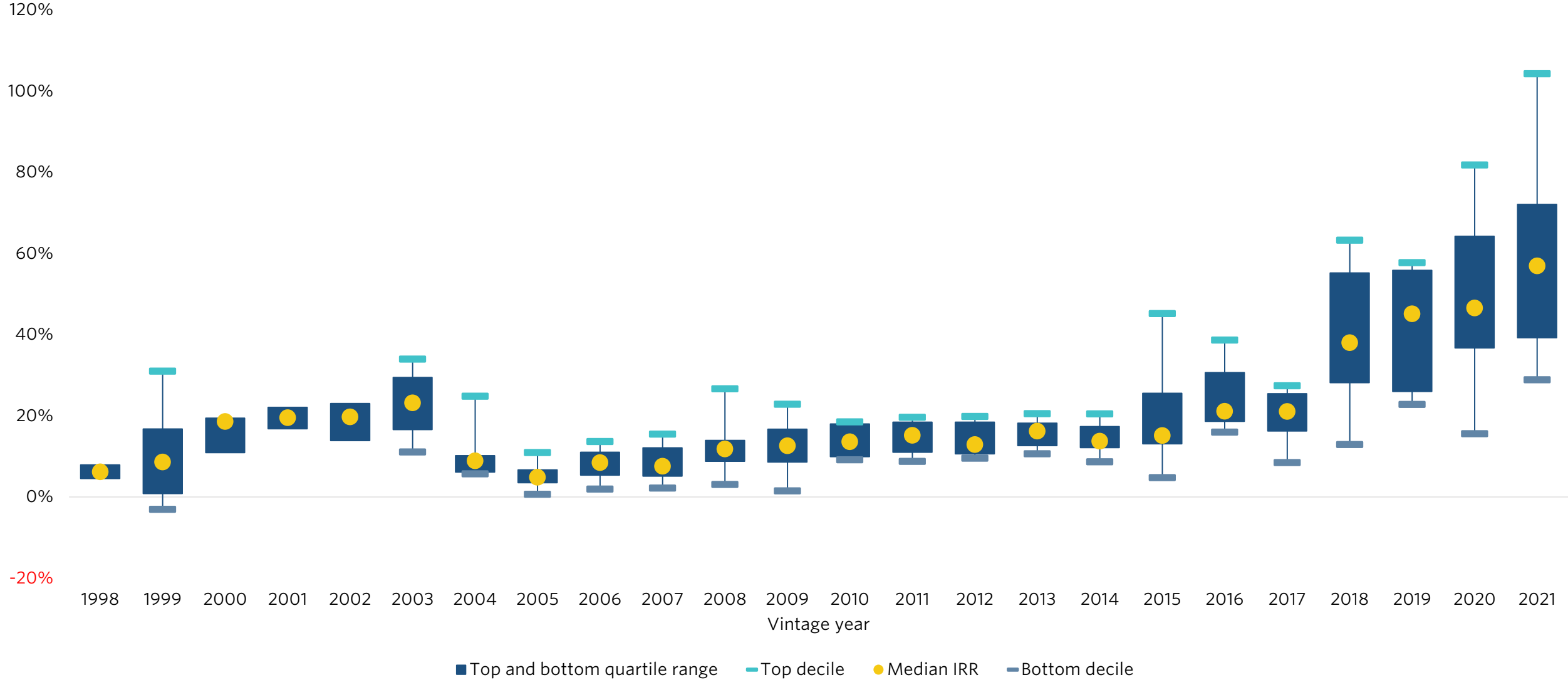
### IRR quantiles

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
1998	9.02%	11.68%	3		7.89%	6.19%	4.56%		8.28%	8
1999	7.33%	5.51%	3	31.00%	16.75%	8.62%	0.85%	-3.09%	14.81%	11
2000	15.09%	14.35%	3		19.45%	18.60%	10.90%		6.63%	7
2001	14.10%	16.01%	2		22.11%	19.52%	16.80%		5.51%	5
2002	16.07%	18.06%	4		23.04%	19.72%	13.89%		12.96%	9
2003	37.92%	37.92%	1	33.97%	29.45%	23.19%	16.63%	11.08%	16.25%	11
2004	11.10%	11.05%	5	24.80%	10.20%	8.90%	6.13%	5.70%	12.07%	11
2005	7.27%	7.72%	7	10.91%	6.68%	4.84%	3.50%	0.65%	5.38%	12
2006	6.42%	7.25%	10	13.64%	11.00%	8.45%	5.39%	1.93%	5.34%	17
2007	5.33%	9.43%	9	15.47%	12.12%	7.58%	5.16%	2.18%	8.96%	12
2008	11.34%	12.48%	15	26.66%	13.92%	11.83%	8.78%	3.08%	11.81%	14
2009	11.47%	10.56%	11	22.85%	16.71%	12.60%	8.62%	1.47%	8.65%	12
2010	11.44%	12.67%	6	18.49%	18.00%	13.60%	9.91%	9.17%	9.10%	13
2011	14.94%	13.36%	12	19.60%	18.45%	15.18%	11.04%	8.76%	7.49%	14
2012	12.98%	11.79%	10	19.83%	18.42%	12.91%	10.63%	9.54%	4.43%	14
2013	9.02%	10.79%	14	20.52%	18.20%	16.21%	12.65%	10.64%	7.40%	18
2014	16.53%	18.78%	13	20.45%	17.35%	13.74%	12.15%	8.66%	8.35%	15
2015	14.11%	17.23%	10	45.17%	25.54%	15.12%	13.08%	4.76%	15.71%	10
2016	22.29%	23.77%	22	38.65%	30.65%	21.12%	18.63%	15.97%	9.63%	26
2017	18.40%	16.91%	13	27.39%	25.45%	21.06%	16.25%	8.44%	7.67%	18
2018	30.84%	30.42%	11	63.25%	55.20%	38.00%	28.19%	12.90%	20.63%	13
2019	43.80%	39.84%	14	57.73%	55.85%	45.16%	26.02%	22.78%	17.42%	14
2020	44.88%	38.32%	14	81.80%	64.27%	46.55%	36.75%	15.55%	39.65%	16
2021	54.10%	60.99%	16	104.32%	72.12%	56.94%	39.24%	28.88%	72.01%	20

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Secondaries

## IRRs by vintage



Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Secondaries

## PMEs by vintage

Vintage year	S&P 500			Morningstar Global			Number of funds
	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	
1998	9.02%	7.88%	1.27	9.02%			3
1999	7.33%	7.20%	1.23	7.33%	6.69%	1.13	3
2000	15.09%	6.90%	1.38	15.09%	6.03%	1.22	3
2001	14.10%	7.73%	1.19	14.10%	6.99%	1.08	2
2002	16.07%	8.69%	1.23	16.07%	8.06%	1.14	4
2003	37.92%	10.62%	1.56	37.92%	9.68%	1.44	1
2004	11.10%	9.47%	1.15	11.10%	8.06%	1.18	5
2005	7.27%	9.61%	0.98	7.27%	7.80%	1.07	7
2006	6.42%	9.61%	0.92	6.42%	7.19%	1.00	10
2007	5.33%	9.38%	0.79	5.33%	6.52%	0.88	9
2008	11.34%	10.34%	0.92	11.34%	6.89%	1.05	15
2009	11.47%	15.34%	0.90	11.47%	12.04%	1.02	11
2010	11.44%	13.38%	0.93	11.44%	9.29%	1.06	6
2011	14.94%	12.95%	1.02	14.94%	8.53%	1.17	12
2012	12.98%	13.68%	0.97	12.98%	9.61%	1.10	10
2013	9.02%	13.56%	0.89	9.02%	9.21%	1.01	14
2014	16.53%	12.38%	1.08	16.53%	8.26%	1.20	13
2015	14.11%	12.05%	1.00	14.11%	8.47%	1.12	10
2016	22.29%	14.75%	1.20	22.29%	11.36%	1.33	22
2017	18.40%	13.46%	1.10	18.40%	9.80%	1.22	13
2018	30.84%	12.00%	1.29	30.84%	7.18%	1.38	11
2019	43.80%	15.43%	1.44	43.80%	10.78%	1.53	14
2020	44.88%	15.85%	1.32	44.88%	11.32%	1.39	14
2021	54.10%	6.44%	1.42	54.10%	-1.24%	1.49	16

Source: PitchBook | Geography: Global | Data as of June 30, 2022



# Secondaries

## Multiples by vintage

Vintage year	Pooled multiples			Equal-weighted pooled multiples			Number of funds
	TVPI	DPI	RVPI	TVPI	DPI	RVPI	
1998	1.34x	1.33x	0.01x	1.38x	1.35x	0.03x	3
1999	1.24x	1.24x	0.00x	1.19x	1.19x	0.00x	3
2000	1.64x	1.64x	0.00x	1.62x	1.62x	0.00x	3
2001	1.55x	1.54x	0.01x	1.62x	1.61x	0.00x	2
2002	1.50x	1.50x	0.00x	1.53x	1.52x	0.00x	4
2003	1.79x	1.79x	0.00x	1.79x	1.79x	0.00x	1
2004	1.53x	1.49x	0.04x	1.51x	1.48x	0.03x	5
2005	1.46x	1.44x	0.02x	1.52x	1.48x	0.04x	7
2006	1.38x	1.32x	0.05x	1.46x	1.31x	0.15x	10
2007	1.26x	1.16x	0.10x	1.47x	1.36x	0.11x	9
2008	1.62x	1.50x	0.12x	1.71x	1.52x	0.19x	15
2009	1.58x	1.46x	0.11x	1.51x	1.36x	0.15x	11
2010	1.43x	1.38x	0.06x	1.50x	1.38x	0.12x	6
2011	1.68x	1.45x	0.23x	1.66x	1.36x	0.30x	12
2012	1.56x	1.32x	0.25x	1.49x	1.18x	0.31x	10
2013	1.38x	1.05x	0.33x	1.52x	1.05x	0.47x	14
2014	1.60x	1.02x	0.58x	1.87x	1.34x	0.53x	13
2015	1.49x	0.66x	0.84x	1.44x	0.96x	0.48x	10
2016	1.70x	0.74x	0.96x	1.81x	0.82x	0.99x	22
2017	1.55x	0.44x	1.11x	1.53x	0.47x	1.06x	13
2018	1.50x	0.27x	1.23x	1.73x	0.39x	1.34x	11
2019	1.67x	0.49x	1.18x	1.59x	0.37x	1.22x	14
2020	1.39x	0.26x	1.13x	1.40x	0.18x	1.22x	14
2021	1.46x	0.11x	1.36x	1.36x	0.07x	1.29x	16

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# 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	
1998			1.32x					1.32x			3
1999			1.26x					1.25x			3
2000			1.74x					1.74x			3
2001			1.62x					1.62x			2
2002		1.58x	1.54x	1.49x			1.57x	1.54x	1.49x		4
2003			1.79x					1.79x			1
2004		1.64x	1.47x	1.41x			1.63x	1.39x	1.35x		5
2005		1.66x	1.44x	1.31x			1.54x	1.43x	1.29x		7
2006	2.00x	1.55x	1.40x	1.23x	1.09x	1.56x	1.44x	1.29x	1.22x	1.08x	10
2007		1.40x	1.36x	1.32x			1.36x	1.32x	1.14x		9
2008	1.87x	1.76x	1.51x	1.43x	1.28x	1.72x	1.58x	1.45x	1.35x	1.21x	15
2009	1.84x	1.74x	1.37x	1.21x	1.01x	1.74x	1.60x	1.37x	1.14x	0.78x	11
2010		1.58x	1.50x	1.43x			1.45x	1.40x	1.28x		6
2011	2.09x	1.74x	1.63x	1.43x	1.39x	1.57x	1.54x	1.33x	1.16x	1.14x	12
2012	1.76x	1.70x	1.49x	1.37x	1.25x	1.55x	1.43x	1.19x	0.97x	0.87x	10
2013	1.79x	1.66x	1.51x	1.45x	1.29x	1.27x	1.20x	1.08x	0.91x	0.82x	14
2014	1.74x	1.65x	1.52x	1.39x	1.28x	1.25x	1.19x	1.13x	0.93x	0.83x	13
2015	1.72x	1.60x	1.39x	1.34x	1.25x	1.43x	1.35x	0.92x	0.65x	0.49x	10
2016	2.19x	1.96x	1.75x	1.52x	1.41x	1.38x	0.99x	0.74x	0.54x	0.36x	22
2017	1.81x	1.69x	1.55x	1.40x	1.23x	0.66x	0.61x	0.45x	0.32x	0.18x	13
2018	1.87x	1.74x	1.62x	1.31x	1.23x	0.68x	0.49x	0.27x	0.17x	0.11x	11
2019	1.92x	1.82x	1.69x	1.39x	1.31x	0.66x	0.50x	0.38x	0.22x	0.13x	14
2020	1.63x	1.49x	1.36x	1.27x	1.20x	0.32x	0.26x	0.14x	0.09x	0.01x	14
2021	1.83x	1.51x	1.33x	1.27x	1.13x	0.20x	0.10x	0.05x	0.00x	0.00x	16

Source: PitchBook | Geography: Global | Data as of June 30, 2022

# Secondaries

## Quarterly return

Quarter end	1-quarter return
Q1 2001	-3.16%
Q2 2001	-3.72%
Q3 2001	1.65%
Q4 2001	-3.32%
Q1 2002	4.02%
Q2 2002	2.08%
Q3 2002	-6.33%
Q4 2002	-4.72%
Q1 2003	-3.00%
Q2 2003	1.35%
Q3 2003	1.54%
Q4 2003	2.47%
Q1 2004	8.86%
Q2 2004	4.93%
Q3 2004	6.66%
Q4 2004	6.11%
Q1 2005	6.89%
Q2 2005	2.03%
Q3 2005	4.72%
Q4 2005	2.03%
Q1 2006	8.03%
Q2 2006	4.79%
Q3 2006	3.69%
Q4 2006	6.43%

Quarter end	1-quarter return
Q1 2007	2.01%
Q2 2007	11.63%
Q3 2007	7.76%
Q4 2007	4.12%
Q1 2008	1.29%
Q2 2008	-2.92%
Q3 2008	2.25%
Q4 2008	-6.13%
Q1 2009	-8.00%
Q2 2009	-3.28%
Q3 2009	0.57%
Q4 2009	1.41%
Q1 2010	1.42%
Q2 2010	6.31%
Q3 2010	7.44%
Q4 2010	4.25%
Q1 2011	7.25%
Q2 2011	6.18%
Q3 2011	4.73%
Q4 2011	-4.17%
Q1 2012	5.16%
Q2 2012	2.74%
Q3 2012	4.34%
Q4 2012	2.22%

Quarter end	1-quarter return
Q1 2013	3.90%
Q2 2013	3.91%
Q3 2013	1.77%
Q4 2013	5.00%
Q1 2014	4.02%
Q2 2014	2.81%
Q3 2014	3.15%
Q4 2014	2.86%
Q1 2015	2.47%
Q2 2015	6.40%
Q3 2015	1.46%
Q4 2015	0.07%
Q1 2016	0.09%
Q2 2016	2.76%
Q3 2016	1.38%
Q4 2016	2.84%
Q1 2017	3.49%
Q2 2017	4.00%
Q3 2017	3.57%
Q4 2017	3.63%
Q1 2018	2.62%
Q2 2018	8.05%
Q3 2018	2.39%
Q4 2018	0.84%

Quarter end	1-quarter return
Q1 2019	2.51%
Q2 2019	3.82%
Q3 2019	0.90%
Q4 2019	3.30%
Q1 2020	-2.45%
Q2 2020	-4.37%
Q3 2020	2.98%
Q4 2020	11.54%
Q1 2021	8.09%
Q2 2021	13.79%
Q3 2021	7.28%
Q4 2021	9.60%
Q1 2022	2.56%
Q2 2022	1.49%
Q3 2022*	8.23%

\*Preliminary figure

# Additional research

## Market updates



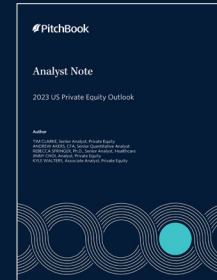
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