



# PitchBook Benchmarks

AS OF Q4 2020 (WITH PRELIMINARY Q1 2021 DATA)

GLOBAL





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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, venture capital, funds of funds, and secondaries, 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](#)
- [Funds of funds](#)
- [Secondaries](#)

PitchBook Benchmark PDFs:

- [Global](#)
- [Europe](#)
- [North America](#)
- [Private equity](#)
- [Venture capital](#)
- [Funds of funds](#)
- [Secondaries](#)

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](mailto: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.

**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 global benchmarks and will be published when 50% or more of NAV is captured for all private capital funds. Note that individual fund strategies may vary from that 50% threshold.

**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.

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

**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](#) 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.



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](mailto:benchmarks@pitchbook.com).

Download the full Basics of Cash Flow Management series.



# Private capital

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## Private capital

## Horizon IRRs

Strategy	Q1 2021*	Q4 2020	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	10.54%	5.08%	12.34%	11.19%	12.21%	12.10%	10.43%	10.24%
Private equity	14.28%	4.50%	17.69%	14.42%	15.17%	13.98%	12.16%	12.27%
Venture capital	13.28%	14.88%	30.40%	21.32%	14.21%	14.14%	10.96%	6.83%
Real estate	6.71%	3.21%	2.08%	5.19%	9.92%	11.96%	7.09%	7.43%
Real assets	1.46%	3.80%	-0.47%	2.13%	5.20%	5.02%	5.20%	5.63%
Private debt	0.43%	4.63%	2.79%	5.42%	6.96%	7.83%	7.98%	8.63%
Funds of funds	10.50%	5.50%	16.23%	14.12%	12.31%	11.28%	9.71%	9.03%
Secondaries	6.80%	8.07%	2.86%	9.25%	10.17%	11.42%	10.62%	10.59%
S&P 500	6.17%	12.15%	18.40%	14.18%	15.22%	13.88%	9.88%	7.47%
MSCI All Country World Index	4.68%	14.79%	16.82%	10.64%	12.86%	9.71%	7.77%	6.66%
MSCI World Small Cap Growth	5.78%	21.36%	29.23%	14.22%	15.65%	11.93%	10.00%	9.43%
Morningstar Global Real Estate	5.28%	10.51%	-4.94%	3.23%	6.20%	6.69%	5.57%	8.20%
Morningstar US Real Assets	6.09%	6.20%	1.03%	2.43%	3.19%	2.52%	4.51%	6.41%
Bloomberg Barclays Global High Yield Corporate	0.12%	7.19%	8.16%	5.80%	8.29%	6.49%	7.46%	

\*For private fund strategies these are preliminary quarterly returns  
Source: PitchBook | Geography: Global | Data as of December 31, 2020  
Note: all public index values are total return CAGRs



Private capital

# Equal-weighted horizon IRRs

Strategy	Q1 2021*	Q4 2020	1-year	3-year	5-year	10-year	15-year	20-year
Private capital	7.82%	5.86%	11.86%	11.63%	11.28%	11.39%	9.99%	8.55%
Private equity	11.46%	5.72%	13.79%	13.08%	14.11%	12.64%	11.89%	11.10%
Venture capital	16.19%	9.98%	20.04%	17.95%	12.04%	12.78%	9.88%	5.49%
Real estate	3.76%	2.05%	1.91%	6.39%	8.22%	10.37%	6.52%	6.92%
Real assets	0.22%	1.70%	0.97%	2.89%	5.36%	5.06%	6.05%	6.68%
Private debt	-0.49%	5.23%	1.98%	5.93%	7.07%	8.03%	7.90%	9.04%
Funds of funds	4.96%	7.26%	19.22%	14.70%	13.00%	12.53%	10.89%	10.24%
Secondaries	3.99%	5.79%	8.52%	9.54%	9.87%	11.37%	10.95%	10.16%
S&P 500	6.17%	12.15%	18.40%	14.18%	15.22%	13.88%	9.88%	7.47%
MSCI All Country World Index	4.68%	14.79%	16.82%	10.64%	12.86%	9.71%	7.77%	6.66%
MSCI World Small Cap Growth	5.78%	21.36%	29.23%	14.22%	15.65%	11.93%	10.00%	9.43%
Morningstar Global Real Estate	5.28%	10.51%	-4.94%	3.23%	6.20%	6.69%	5.57%	8.20%
Morningstar US Real Assets	6.09%	6.20%	1.03%	2.43%	3.19%	2.52%	4.51%	6.41%
Bloomberg Barclays Global High Yield Corporate	0.12%	7.19%	8.16%	5.80%	8.29%	6.49%	7.46%	

\*For private fund strategies these are preliminary quarterly returns  
 Source: PitchBook | Geography: Global | Data as of December 31, 2020  
 Note: all public index values are total return CAGRs

Private capital

# One-year horizon IRRs of select global strategies

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	15-year horizon IRR
Real estate 53.7%	Secondaries 32.5%	Real assets -3.1%	Private debt 24.7%	Secondaries 20.4%	Secondaries 12.8%	Private debt 15.4%	Venture capital 20.0%	Other PE 22.0%	Venture capital 13.6%	Buyout 12.8%	Real estate 22.7%	Growth-Expansion 18.0%	Venture capital 16.6%	Growth-Expansion 33.5%	Growth-Expansion 13.7%
Growth-Expansion 39.7%	Buyout 25.3%	Secondaries -8.5%	Buyout 7.9%	Growth-Expansion 18.9%	Real assets 11.8%	Other PE 15.2%	Buyout 17.8%	Venture capital 19.8%	Other PE 13.0%	Other PE 12.3%	Buyout 20.9%	Venture capital 17.4%	Buyout 15.8%	Venture capital 30.4%	Buyout 12.2%
Buyout 29.2%	Private capital 21.2%	Other PE -10.3%	Growth-Expansion 7.3%	Buyout 17.5%	Venture capital 11.2%	Secondaries 14.9%	Real estate 17.1%	Real estate 16.3%	Buyout 12.7%	Real assets 12.0%	Private capital 17.1%	Funds of funds 15.3%	Growth-Expansion 15.7%	Buyout 16.9%	Venture capital 11.0%
Secondaries 29.1%	Real assets 20.6%	Venture capital -11.8%	Private capital 2.4%	Private debt 16.5%	Real estate 10.5%	Buyout 14.4%	Private capital 15.6%	Secondaries 13.5%	Funds of funds 12.4%	Private capital 10.5%	Growth-Expansion 17.0%	Secondaries 14.4%	Secondaries 11.2%	Funds of funds 16.2%	Secondaries 10.6%
Private capital 28.2%	Other PE 18.3%	Funds of funds -12.7%	Other PE 1.8%	Other PE 15.7%	Private capital 8.5%	Private capital 12.6%	Other PE 15.5%	Funds of funds 13.4%	Growth-Expansion 12.3%	Growth-Expansion 10.5%	Secondaries 15.9%	Buyout 10.3%	Private capital 11.2%	Private capital 12.3%	Private capital 10.4%
Real assets 28.0%	Funds of funds 17.5%	Growth-Expansion -15.0%	Funds of funds 0.6%	Private capital 15.6%	Buyout 8.4%	Real estate 11.4%	Private debt 14.1%	Private capital 13.3%	Real estate 12.3%	Real estate 9.9%	Funds of funds 12.9%	Private capital 10.0%	Funds of funds 10.9%	Secondaries 2.9%	Funds of funds 9.7%
Funds of funds 25.4%	Venture capital 13.9%	Private capital -20.4%	Venture capital 0.0%	Real estate 12.7%	Other PE 7.6%	Growth-Expansion 11.3%	Growth-Expansion 13.1%	Buyout 13.3%	Secondaries 10.8%	Private debt 8.6%	Other PE 10.8%	Real assets 8.5%	Other PE 8.8%	Private debt 2.8%	Other PE 9.3%
Private debt 25.3%	Private debt 13.8%	Buyout -21.6%	Real assets -0.4%	Venture capital 11.7%	Growth-Expansion 7.2%	Funds of funds 8.4%	Funds of funds 12.5%	Growth-Expansion 12.1%	Private capital 10.1%	Secondaries 7.6%	Private debt 10.7%	Private debt 6.7%	Real estate 7.7%	Other PE 2.8%	Private debt 8.0%
Other PE 16.2%	Real estate 11.5%	Private debt -31.2%	Secondaries -10.7%	Real assets 11.4%	Funds of funds 6.1%	Venture capital 7.1%	Secondaries 10.3%	Real assets 8.2%	Private debt 3.2%	Funds of funds 7.5%	Venture capital 10.3%	Real estate 5.9%	Private debt 7.3%	Real estate 2.1%	Real estate 7.1%
Venture capital 13.2%	Growth-Expansion 7.2%	Real estate -31.8%	Real estate -39.0%	Funds of funds 5.9%	Private debt 3.5%	Real assets 5.3%	Real assets 5.1%	Private debt 7.7%	Real assets -3.7%	Venture capital -0.1%	Real assets 10.3%	Other PE -1.7%	Real assets -0.8%	Real assets -0.5%	Real assets 5.2%

Source: PitchBook | Geography: Global | Data as of December 31, 2020

# Private equity

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## Private equity

## IRR by vintage

## Pooled IRRs

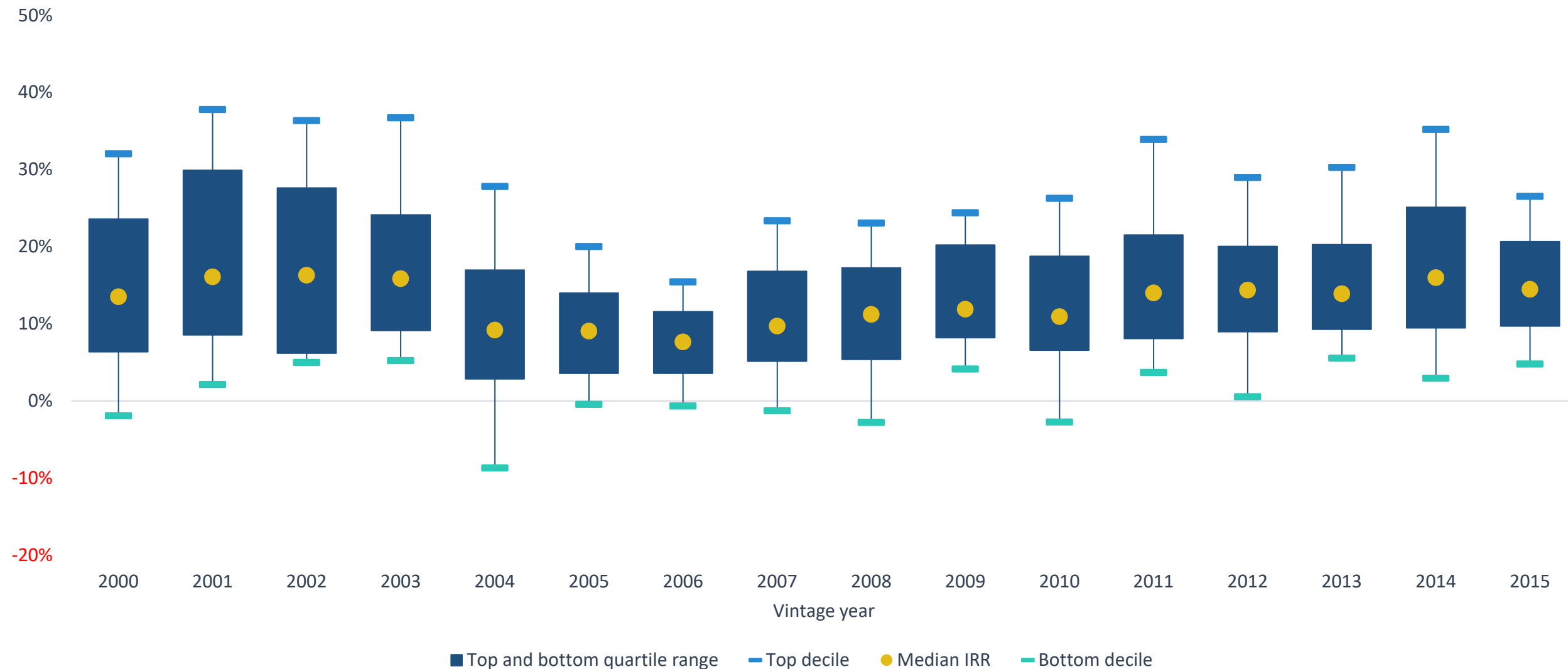
## IRR hurdle rates

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
<b>Pre-1996</b>	21.06%	12.65%	5	35.57%	28.80%	16.80%	10.02%	-1.10%	17.21%	89
<b>1996</b>	11.33%	7.79%	25	23.46%	15.99%	6.35%	0.38%	-6.47%	13.59%	36
<b>1997</b>	9.71%	7.39%	26	18.58%	13.02%	7.30%	-0.82%	-4.12%	15.64%	33
<b>1998</b>	6.57%	5.20%	43	19.95%	13.75%	8.44%	0.40%	-8.59%	10.88%	57
<b>1999</b>	9.87%	11.34%	38	24.58%	17.75%	11.50%	4.78%	-3.28%	11.90%	57
<b>2000</b>	16.11%	12.72%	51	32.06%	23.59%	13.52%	6.38%	-1.93%	12.49%	70
<b>2001</b>	23.86%	20.15%	34	37.78%	29.91%	16.10%	8.58%	2.14%	18.14%	43
<b>2002</b>	20.60%	17.35%	38	36.35%	27.63%	16.30%	6.20%	5.00%	16.89%	51
<b>2003</b>	18.17%	15.17%	25	36.72%	24.15%	15.85%	9.13%	5.25%	12.06%	36
<b>2004</b>	11.77%	10.05%	49	27.80%	16.97%	9.19%	2.86%	-8.69%	16.93%	54
<b>2005</b>	9.57%	9.86%	79	20.02%	14.00%	9.06%	3.60%	-0.44%	13.60%	89
<b>2006</b>	7.62%	7.62%	115	15.45%	11.58%	7.67%	3.59%	-0.66%	7.88%	140
<b>2007</b>	9.31%	9.46%	109	23.35%	16.82%	9.72%	5.15%	-1.27%	11.75%	135
<b>2008</b>	12.88%	10.87%	116	23.07%	17.26%	11.23%	5.40%	-2.79%	16.65%	135
<b>2009</b>	12.37%	13.12%	50	24.39%	20.23%	11.90%	8.20%	4.15%	10.02%	58
<b>2010</b>	11.69%	10.00%	58	26.28%	18.79%	10.93%	6.60%	-2.73%	12.80%	67
<b>2011</b>	15.11%	15.18%	83	33.89%	21.54%	14.00%	8.10%	3.70%	17.77%	99
<b>2012</b>	15.03%	12.50%	108	28.99%	20.05%	14.38%	9.00%	0.55%	12.31%	112
<b>2013</b>	12.90%	12.63%	98	30.29%	20.29%	13.91%	9.29%	5.55%	12.47%	108
<b>2014</b>	18.39%	15.72%	96	35.20%	25.12%	16.00%	9.49%	2.94%	16.41%	85
<b>2015</b>	17.60%	15.78%	117	26.54%	20.69%	14.49%	9.70%	4.80%	11.23%	112
<b>2016</b>	17.91%	17.84%	120	36.89%	25.46%	15.95%	9.00%	3.72%	14.54%	133
<b>2017</b>	19.74%	19.04%	125	31.99%	23.77%	14.78%	7.90%	1.20%	19.87%	120
<b>2018</b>	17.43%	13.06%	133	46.46%	25.09%	12.85%	4.81%	-10.51%	25.21%	118

Source: PitchBook | Geography: Global | Data as of December 31, 2020

Private equity

# IRRs by vintage



Private equity

# PMEs by vintage

## S&P 500 index

## MSCI All Country World Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	11.33%	9.24%	1.38	11.33%	7.29%	1.38	25
1997	9.71%	8.59%	1.38	9.71%	7.09%	1.33	26
1998	6.57%	7.64%	1.31	6.57%	6.47%	1.22	43
1999	9.87%	6.90%	1.35	9.87%	6.11%	1.25	38
2000	16.11%	6.57%	1.50	16.11%	5.46%	1.36	51
2001	23.86%	7.44%	1.68	23.86%	6.59%	1.53	34
2002	20.60%	8.45%	1.48	20.60%	7.80%	1.39	38
2003	18.17%	10.53%	1.47	18.17%	9.62%	1.43	25
2004	11.77%	9.27%	1.31	11.77%	7.95%	1.32	49
2005	9.57%	9.42%	1.17	9.57%	7.69%	1.27	79
2006	7.62%	9.40%	1.01	7.62%	7.08%	1.15	115
2007	9.31%	9.13%	0.95	9.31%	6.36%	1.10	109
2008	12.88%	10.18%	0.99	12.88%	6.73%	1.16	116
2009	12.37%	15.81%	0.94	12.37%	12.57%	1.09	50
2010	11.69%	13.61%	0.93	11.69%	9.62%	1.10	58
2011	15.11%	13.14%	1.06	15.11%	8.91%	1.23	83
2012	15.03%	14.02%	1.06	15.03%	10.22%	1.20	108
2013	12.90%	13.92%	1.01	12.90%	9.87%	1.12	98
2014	18.39%	12.53%	1.18	18.39%	8.88%	1.29	96
2015	17.60%	12.14%	1.09	17.60%	9.19%	1.17	117
2016	17.91%	15.72%	1.07	17.91%	13.24%	1.14	120
2017	19.74%	14.16%	1.06	19.74%	11.59%	1.11	125
2018	17.43%	12.16%	0.99	17.43%	8.11%	1.01	133

Source: PitchBook | Geography: Global | Data as of December 31, 2020



## Private equity

## Multiples by vintage

## Pooled multiples

## Equal-weighted pooled multiples

Vintage year	TVPI	DPI	RVPI	TVPI	DPI	RVPI	Number of funds
Pre-1996	1.69x	1.64x	0.05x	1.49x	1.46x	0.03x	5
1996	1.57x	1.56x	0.00x	1.39x	1.38x	0.02x	25
1997	1.58x	1.58x	0.00x	1.38x	1.38x	0.00x	26
1998	1.39x	1.39x	0.00x	1.27x	1.27x	0.00x	43
1999	1.51x	1.51x	0.00x	1.64x	1.64x	0.00x	38
2000	1.85x	1.83x	0.01x	1.73x	1.71x	0.02x	51
2001	2.16x	2.15x	0.01x	2.01x	2.00x	0.02x	34
2002	1.98x	1.98x	0.01x	1.83x	1.82x	0.01x	38
2003	1.90x	1.88x	0.02x	1.82x	1.80x	0.02x	25
2004	1.69x	1.65x	0.05x	1.57x	1.52x	0.06x	49
2005	1.62x	1.57x	0.04x	1.66x	1.58x	0.08x	79
2006	1.50x	1.44x	0.06x	1.48x	1.39x	0.09x	115
2007	1.53x	1.41x	0.12x	1.55x	1.43x	0.11x	109
2008	1.68x	1.55x	0.12x	1.58x	1.43x	0.15x	116
2009	1.58x	1.44x	0.14x	1.63x	1.44x	0.19x	50
2010	1.65x	1.25x	0.39x	1.53x	1.17x	0.36x	58
2011	1.82x	1.26x	0.56x	1.83x	1.25x	0.58x	83
2012	1.69x	1.07x	0.61x	1.55x	0.99x	0.56x	108
2013	1.50x	0.85x	0.65x	1.51x	0.84x	0.67x	98
2014	1.75x	0.81x	0.93x	1.64x	0.72x	0.92x	96
2015	1.52x	0.55x	0.97x	1.50x	0.49x	1.01x	117
2016	1.46x	0.33x	1.13x	1.46x	0.34x	1.12x	120
2017	1.34x	0.17x	1.16x	1.36x	0.22x	1.14x	125
2018	1.17x	0.08x	1.10x	1.16x	0.10x	1.07x	133

Source: PitchBook | Geography: Global | Data as of December 31, 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		1.91x	1.54x	0.86x			1.91x	1.54x	0.86x		5
1996	2.30x	1.82x	1.26x	1.01x	0.57x	2.30x	1.82x	1.26x	0.78x	0.55x	25
1997	2.02x	1.73x	1.44x	1.02x	0.77x	2.02x	1.73x	1.44x	1.02x	0.77x	26
1998	1.87x	1.57x	1.30x	0.94x	0.58x	1.87x	1.57x	1.29x	0.94x	0.58x	43
1999	2.40x	2.00x	1.57x	1.23x	0.98x	2.40x	2.00x	1.57x	1.20x	0.98x	38
2000	2.42x	2.18x	1.67x	1.34x	0.95x	2.42x	2.13x	1.67x	1.34x	0.83x	51
2001	2.93x	2.47x	2.05x	1.57x	1.28x	2.93x	2.46x	1.97x	1.57x	1.28x	34
2002	2.65x	2.17x	1.78x	1.35x	1.21x	2.62x	2.16x	1.78x	1.35x	1.21x	38
2003	2.99x	1.90x	1.71x	1.42x	1.05x	2.91x	1.89x	1.71x	1.39x	1.04x	25
2004	2.54x	1.98x	1.56x	1.18x	0.60x	2.51x	1.97x	1.51x	1.10x	0.59x	49
2005	2.37x	1.84x	1.48x	1.23x	0.96x	2.32x	1.75x	1.47x	1.17x	0.87x	79
2006	2.09x	1.72x	1.41x	1.17x	0.92x	2.06x	1.63x	1.38x	1.13x	0.76x	115
2007	2.24x	1.97x	1.50x	1.16x	0.90x	2.13x	1.87x	1.39x	1.04x	0.74x	109
2008	2.25x	1.92x	1.56x	1.25x	0.86x	2.04x	1.83x	1.39x	1.02x	0.68x	116
2009	2.38x	1.97x	1.51x	1.30x	0.98x	2.31x	1.81x	1.32x	1.07x	0.77x	50
2010	2.44x	1.81x	1.45x	1.16x	0.79x	2.00x	1.50x	1.16x	0.79x	0.45x	58
2011	3.12x	2.18x	1.62x	1.31x	0.87x	2.10x	1.54x	1.17x	0.69x	0.37x	83
2012	2.20x	1.91x	1.54x	1.21x	0.92x	1.63x	1.33x	0.92x	0.60x	0.43x	108
2013	2.01x	1.67x	1.47x	1.28x	1.03x	1.45x	1.08x	0.80x	0.53x	0.20x	98
2014	2.66x	1.80x	1.46x	1.19x	0.91x	1.55x	1.02x	0.59x	0.24x	0.05x	96
2015	2.03x	1.59x	1.38x	1.19x	1.00x	0.93x	0.69x	0.38x	0.18x	0.08x	117
2016	2.03x	1.67x	1.37x	1.17x	1.01x	0.79x	0.47x	0.24x	0.08x	0.00x	120
2017	1.66x	1.46x	1.21x	1.08x	0.90x	0.48x	0.30x	0.13x	0.02x	0.00x	125
2018	1.38x	1.24x	1.12x	1.00x	0.84x	0.26x	0.08x	0.01x	0.00x	0.00x	133

Source: PitchBook | Geography: Global | Data as of December 31, 2020



Private equity

# Quarterly return

Quarter end	1-quarter return
Q1 2001	-6.35%
Q2 2001	0.49%
Q3 2001	-3.55%
Q4 2001	-4.02%
Q1 2002	-0.62%
Q2 2002	-2.79%
Q3 2002	-2.79%
Q4 2002	-0.39%
Q1 2003	0.16%
Q2 2003	6.08%
Q3 2003	4.00%
Q4 2003	9.63%
Q1 2004	9.17%
Q2 2004	0.20%
Q3 2004	2.73%
Q4 2004	13.66%
Q1 2005	2.23%
Q2 2005	8.21%
Q3 2005	7.58%
Q4 2005	10.39%
Q1 2006	4.16%
Q2 2006	5.75%
Q3 2006	4.38%
Q4 2006	12.70%

Quarter end	1-quarter return
Q1 2007	4.78%
Q2 2007	9.65%
Q3 2007	4.41%
Q4 2007	3.14%
Q1 2008	-0.15%
Q2 2008	-1.05%
Q3 2008	-8.40%
Q4 2008	-11.82%
Q1 2009	-7.62%
Q2 2009	4.27%
Q3 2009	5.07%
Q4 2009	7.76%
Q1 2010	2.83%
Q2 2010	1.58%
Q3 2010	4.64%
Q4 2010	7.66%
Q1 2011	5.36%
Q2 2011	4.62%
Q3 2011	-2.89%
Q4 2011	1.14%
Q1 2012	5.98%
Q2 2012	0.74%
Q3 2012	3.75%
Q4 2012	3.16%

Quarter end	1-quarter return
Q1 2013	3.19%
Q2 2013	2.91%
Q3 2013	4.81%
Q4 2013	5.78%
Q1 2014	4.71%
Q2 2014	4.98%
Q3 2014	0.12%
Q4 2014	3.39%
Q1 2015	3.37%
Q2 2015	5.63%
Q3 2015	0.57%
Q4 2015	2.00%
Q1 2016	1.74%
Q2 2016	4.24%
Q3 2016	4.35%
Q4 2016	1.44%
Q1 2017	4.64%
Q2 2017	5.36%
Q3 2017	4.46%
Q4 2017	4.72%
Q1 2018	4.18%
Q2 2018	3.28%
Q3 2018	3.35%
Q4 2018	-0.70%

Quarter end	1-quarter return
Q1 2019	4.67%
Q2 2019	3.08%
Q3 2019	3.25%
Q4 2019	4.44%
Q1 2020	-7.99%
Q2 2020	8.99%
Q3 2020	13.33%
Q4 2020	4.50%
Q1 2021*	14.28%

\*Preliminary figure

# Venture capital

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## Venture capital

## IRR by vintage

## Pooled IRRs

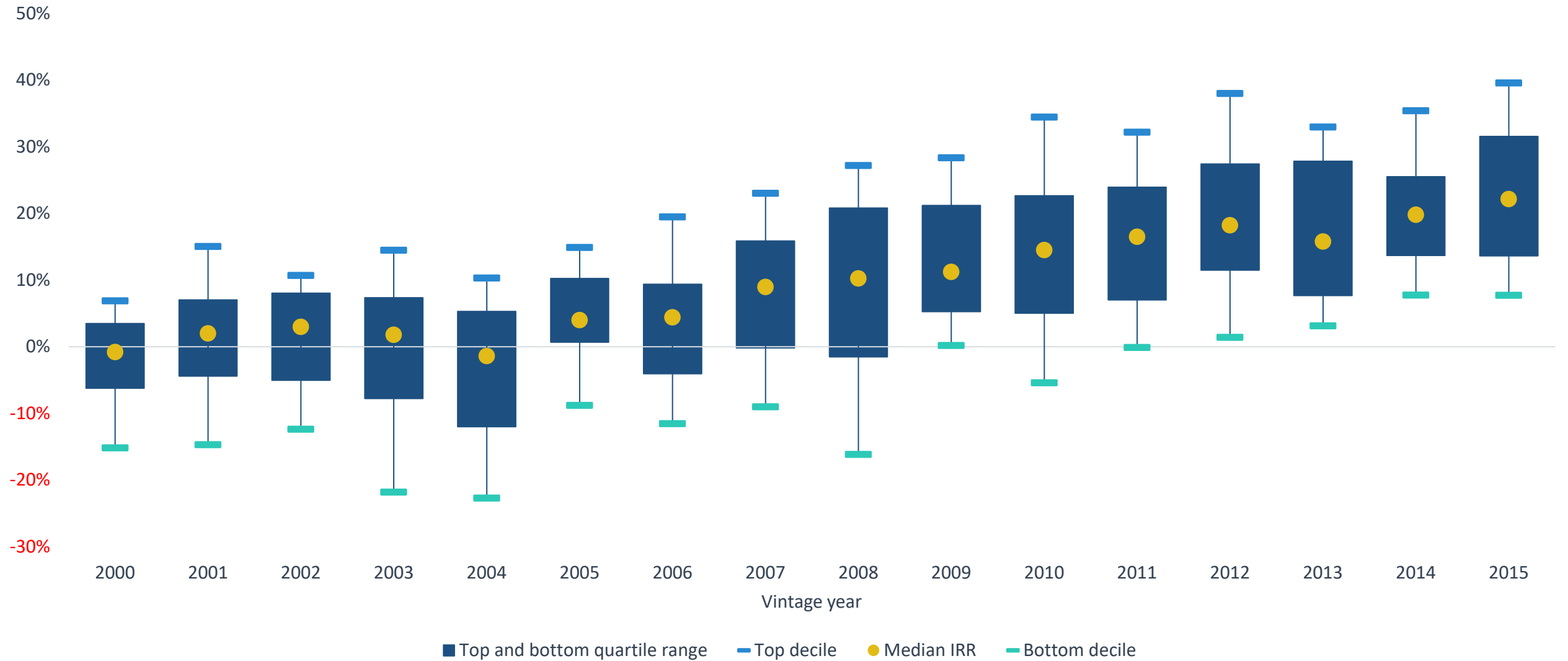
## IRR hurdle rates

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	78.60%	34.67%	14.75%	6.82%	-0.42%	65.51%	68
1996	91.71%	143.96%	8	127.92%	86.12%	37.52%	8.67%	-0.89%	58.55%	14
1997	5.94%	13.07%	15	126.19%	72.69%	17.63%	0.13%	-5.00%	119.94%	23
1998	5.90%	4.73%	20	48.99%	15.43%	9.22%	-7.68%	-10.66%	36.58%	23
1999	-2.76%	-3.93%	37	10.98%	5.57%	-3.46%	-12.45%	-18.77%	13.49%	44
2000	0.35%	-0.96%	61	6.89%	3.49%	-0.80%	-6.21%	-15.16%	10.92%	78
2001	4.64%	2.86%	32	15.04%	7.04%	1.99%	-4.40%	-14.71%	11.63%	42
2002	2.98%	2.71%	20	10.68%	8.03%	2.99%	-5.04%	-12.37%	10.77%	28
2003	5.63%	1.29%	20	14.48%	7.35%	1.80%	-7.76%	-21.81%	38.59%	26
2004	4.56%	6.93%	22	10.30%	5.29%	-1.40%	-12.00%	-22.71%	18.69%	35
2005	8.40%	7.07%	29	14.88%	10.25%	4.00%	0.70%	-8.80%	19.02%	39
2006	6.57%	4.00%	41	19.47%	9.38%	4.40%	-4.04%	-11.54%	14.59%	48
2007	11.46%	11.38%	48	23.00%	15.85%	8.95%	-0.17%	-9.00%	17.38%	60
2008	12.25%	9.36%	52	27.16%	20.81%	10.24%	-1.50%	-16.14%	23.81%	57
2009	11.81%	9.35%	24	28.33%	21.18%	11.21%	5.28%	0.19%	11.00%	30
2010	16.92%	18.44%	22	34.42%	22.65%	14.50%	5.03%	-5.42%	16.76%	34
2011	18.63%	16.59%	17	32.16%	23.93%	16.49%	7.03%	-0.12%	15.81%	40
2012	17.37%	16.57%	21	37.96%	27.40%	18.20%	11.50%	1.39%	20.84%	37
2013	20.19%	15.45%	22	32.94%	27.82%	15.78%	7.67%	3.12%	21.58%	37
2014	22.68%	23.14%	39	35.38%	25.49%	19.80%	13.70%	7.75%	12.83%	45
2015	20.81%	19.57%	44	39.55%	31.55%	22.15%	13.62%	7.70%	12.69%	51
2016	27.67%	27.58%	50	42.92%	34.89%	26.66%	16.74%	11.43%	13.75%	51
2017	31.70%	30.97%	38	42.11%	37.75%	23.38%	16.40%	9.84%	20.28%	41
2018	31.47%	18.52%	48	76.43%	43.10%	29.87%	12.17%	1.54%	35.94%	50

Source: PitchBook | Geography: Global | Data as of December 31, 2020

Venture capital

# IRRs by vintage





## Venture capital

## PMEs by vintage

## S&amp;P 500 index

## MSCI World Small Cap Growth Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	91.71%	9.24%	2.65	91.71%	8.35%	2.56	8
1997	5.94%	8.59%	1.08	5.94%	8.67%	0.94	15
1998	5.90%	7.64%	1.15	5.90%	8.77%	0.96	20
1999	-2.76%	6.90%	0.74	-2.76%	9.18%	0.61	37
2000	0.35%	6.57%	0.73	0.35%	7.13%	0.57	61
2001	4.64%	7.44%	0.91	4.64%	9.22%	0.74	32
2002	2.98%	8.45%	0.84	2.98%	10.60%	0.71	20
2003	5.63%	10.53%	0.91	5.63%	12.62%	0.83	20
2004	4.56%	9.27%	0.84	4.56%	10.22%	0.79	22
2005	8.40%	9.42%	0.97	8.40%	9.88%	0.98	29
2006	6.57%	9.40%	0.83	6.57%	9.00%	0.85	41
2007	11.46%	9.13%	1.01	11.46%	8.64%	1.05	48
2008	12.25%	10.18%	0.95	12.25%	9.65%	0.99	52
2009	11.81%	15.81%	0.89	11.81%	16.03%	0.97	24
2010	16.92%	13.61%	1.13	16.92%	12.54%	1.24	22
2011	18.63%	13.14%	1.26	18.63%	10.84%	1.38	17
2012	17.37%	14.02%	1.22	17.37%	12.44%	1.31	21
2013	20.19%	13.92%	1.31	20.19%	12.46%	1.38	22
2014	22.68%	12.53%	1.40	22.68%	10.27%	1.44	39
2015	20.81%	12.14%	1.21	20.81%	11.75%	1.23	44
2016	27.67%	15.72%	1.32	27.67%	16.08%	1.33	50
2017	31.70%	14.16%	1.33	31.70%	14.63%	1.32	38
2018	31.47%	12.16%	1.29	31.47%	10.73%	1.26	48



## 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	3.44x	3.42x	0.01x	4.46x	4.46x	0.01x	8
1997	1.23x	1.23x	0.00x	1.41x	1.41x	0.00x	15
1998	1.26x	1.25x	0.01x	1.19x	1.18x	0.01x	20
1999	0.83x	0.78x	0.05x	0.77x	0.75x	0.02x	37
2000	1.03x	0.96x	0.06x	0.93x	0.89x	0.04x	61
2001	1.33x	1.29x	0.05x	1.21x	1.14x	0.06x	32
2002	1.20x	1.18x	0.02x	1.19x	1.07x	0.12x	20
2003	1.40x	1.35x	0.05x	1.08x	1.05x	0.03x	20
2004	1.37x	1.27x	0.10x	1.59x	1.44x	0.15x	22
2005	1.78x	1.49x	0.29x	1.65x	1.38x	0.27x	29
2006	1.44x	1.21x	0.24x	1.29x	1.04x	0.25x	41
2007	1.90x	1.52x	0.38x	1.91x	1.53x	0.38x	48
2008	1.81x	1.50x	0.31x	1.66x	1.28x	0.38x	52
2009	2.04x	1.27x	0.77x	1.73x	0.99x	0.73x	24
2010	2.20x	1.34x	0.86x	2.35x	1.57x	0.78x	22
2011	2.46x	1.25x	1.21x	2.31x	1.07x	1.24x	17
2012	2.35x	0.97x	1.38x	2.30x	0.78x	1.52x	21
2013	2.18x	0.87x	1.31x	1.87x	0.69x	1.18x	22
2014	2.35x	0.50x	1.85x	2.28x	0.48x	1.80x	39
2015	1.83x	0.27x	1.56x	1.78x	0.28x	1.50x	44
2016	1.84x	0.23x	1.61x	1.89x	0.25x	1.64x	50
2017	1.76x	0.10x	1.65x	1.80x	0.13x	1.68x	38
2018	1.60x	0.05x	1.55x	1.46x	0.13x	1.33x	48

Source: PitchBook | Geography: Global | Data as of December 31, 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		4.15x	1.87x	1.41x			4.15x	1.87x	1.40x		8
1997	2.43x	1.71x	1.14x	0.87x	0.65x	2.43x	1.71x	1.14x	0.87x	0.65x	15
1998	1.80x	1.67x	1.21x	0.68x	0.46x	1.80x	1.63x	1.20x	0.68x	0.46x	20
1999	1.46x	1.04x	0.71x	0.38x	0.19x	1.41x	1.04x	0.71x	0.36x	0.19x	37
2000	1.44x	1.18x	0.93x	0.62x	0.38x	1.43x	1.13x	0.92x	0.56x	0.36x	61
2001	1.86x	1.57x	1.22x	0.77x	0.34x	1.86x	1.47x	1.09x	0.70x	0.28x	32
2002	1.77x	1.62x	1.19x	0.76x	0.55x	1.73x	1.60x	1.16x	0.57x	0.37x	20
2003	1.68x	1.44x	1.12x	0.52x	0.40x	1.68x	1.43x	1.10x	0.52x	0.40x	20
2004	1.88x	1.57x	1.05x	0.59x	0.38x	1.83x	1.47x	0.91x	0.42x	0.12x	22
2005	2.49x	1.75x	1.28x	1.07x	0.54x	2.09x	1.62x	1.22x	0.80x	0.49x	29
2006	2.31x	1.71x	1.09x	0.69x	0.39x	1.96x	1.37x	1.01x	0.54x	0.28x	41
2007	2.89x	2.27x	1.71x	0.92x	0.44x	2.60x	1.95x	1.45x	0.53x	0.25x	48
2008	2.86x	2.22x	1.43x	0.77x	0.23x	2.63x	1.78x	0.76x	0.37x	0.21x	52
2009	2.52x	2.08x	1.60x	1.27x	0.85x	1.72x	1.35x	0.93x	0.50x	0.37x	24
2010	3.46x	2.82x	1.94x	1.56x	0.77x	2.83x	1.72x	1.07x	0.65x	0.46x	22
2011	3.56x	2.75x	1.99x	1.51x	1.17x	1.79x	1.58x	1.10x	0.74x	0.24x	17
2012	3.63x	2.33x	2.05x	1.27x	0.99x	1.92x	0.99x	0.61x	0.26x	0.10x	21
2013	3.01x	2.13x	1.84x	1.39x	0.87x	1.83x	0.87x	0.52x	0.20x	0.09x	22
2014	3.19x	2.57x	2.05x	1.58x	1.14x	1.05x	0.67x	0.32x	0.12x	0.00x	39
2015	2.45x	2.10x	1.66x	1.32x	1.11x	0.69x	0.31x	0.15x	0.00x	0.00x	44
2016	2.60x	2.23x	1.59x	1.38x	0.99x	0.69x	0.37x	0.09x	0.00x	0.00x	50
2017	2.55x	2.06x	1.52x	1.18x	1.04x	0.38x	0.14x	0.03x	0.00x	0.00x	38
2018	2.01x	1.56x	1.24x	0.97x	0.92x	0.47x	0.02x	0.00x	0.00x	0.00x	48

Venture capital

# Quarterly return

Quarter end	1-quarter return
Q1 2001	-10.87%
Q2 2001	-9.68%
Q3 2001	-13.50%
Q4 2001	-11.66%
Q1 2002	-7.83%
Q2 2002	-12.22%
Q3 2002	-9.58%
Q4 2002	-10.55%
Q1 2003	-7.68%
Q2 2003	-1.70%
Q3 2003	-2.55%
Q4 2003	2.50%
Q1 2004	0.61%
Q2 2004	0.80%
Q3 2004	-0.93%
Q4 2004	3.06%
Q1 2005	-1.84%
Q2 2005	0.47%
Q3 2005	4.93%
Q4 2005	2.70%
Q1 2006	3.10%
Q2 2006	0.96%
Q3 2006	1.86%
Q4 2006	6.99%

Quarter end	1-quarter return
Q1 2007	2.63%
Q2 2007	5.42%
Q3 2007	2.55%
Q4 2007	4.15%
Q1 2008	2.79%
Q2 2008	-2.10%
Q3 2008	-3.19%
Q4 2008	-8.88%
Q1 2009	-3.47%
Q2 2009	-0.27%
Q3 2009	0.78%
Q4 2009	3.45%
Q1 2010	1.55%
Q2 2010	-0.40%
Q3 2010	3.90%
Q4 2010	6.36%
Q1 2011	4.59%
Q2 2011	4.96%
Q3 2011	-0.10%
Q4 2011	1.70%
Q1 2012	4.33%
Q2 2012	0.97%
Q3 2012	-0.12%
Q4 2012	2.12%

Quarter end	1-quarter return
Q1 2013	2.22%
Q2 2013	4.63%
Q3 2013	5.16%
Q4 2013	7.77%
Q1 2014	6.03%
Q2 2014	2.98%
Q3 2014	2.76%
Q4 2014	6.36%
Q1 2015	4.91%
Q2 2015	6.54%
Q3 2015	0.27%
Q4 2015	1.98%
Q1 2016	-3.40%
Q2 2016	0.04%
Q3 2016	3.27%
Q4 2016	0.95%
Q1 2017	2.39%
Q2 2017	2.02%
Q3 2017	3.72%
Q4 2017	2.96%
Q1 2018	6.50%
Q2 2018	5.69%
Q3 2018	3.63%
Q4 2018	1.55%

Quarter end	1-quarter return
Q1 2019	6.40%
Q2 2019	3.03%
Q3 2019	2.04%
Q4 2019	5.26%
Q1 2020	-1.62%
Q2 2020	8.93%
Q3 2020	12.50%
Q4 2020	14.88%
Q1 2021*	13.28%

\*Preliminary figure



# Real estate

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## Real estate

## IRR by vintage

## Pooled IRRs

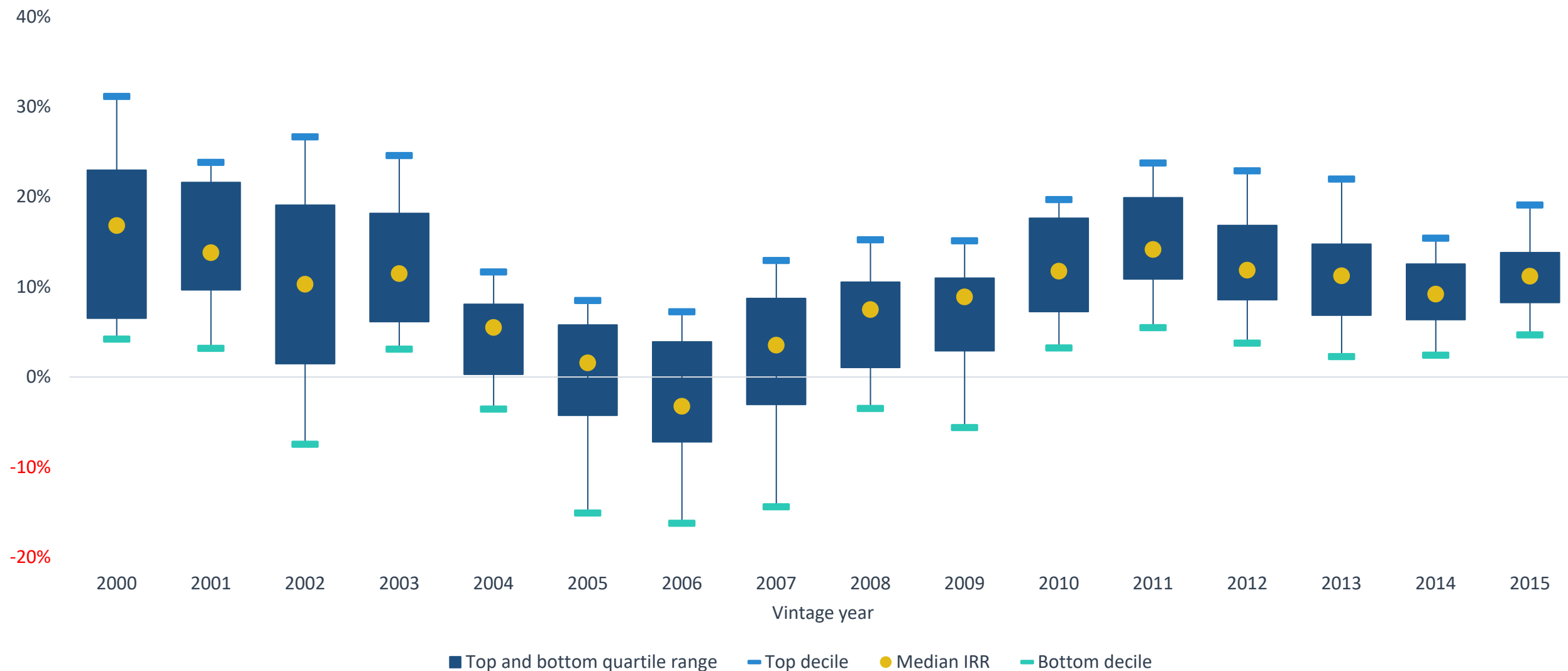
## IRR hurdle rates

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
<b>Pre-1996</b>					19.82%	16.10%	8.57%		7.77%	9
<b>1996</b>	10.02%	7.45%	5		9.69%	7.50%	6.06%		4.48%	7
<b>1997</b>	13.89%	11.45%	5		14.67%	7.24%	4.48%		6.14%	7
<b>1998</b>	4.86%	5.49%	8	11.30%	8.40%	7.18%	1.62%	-1.29%	5.85%	11
<b>1999</b>	11.81%	9.15%	2		20.61%	15.70%	10.88%		8.50%	8
<b>2000</b>	16.29%	15.08%	12	31.15%	22.97%	16.81%	6.51%	4.20%	11.26%	14
<b>2001</b>	26.46%	17.46%	3	23.81%	21.61%	13.79%	9.66%	3.17%	9.17%	10
<b>2002</b>	8.54%	15.83%	3	26.65%	19.08%	10.28%	1.47%	-7.48%	17.50%	12
<b>2003</b>	7.64%	8.48%	4	24.57%	18.17%	11.47%	6.13%	3.08%	9.29%	18
<b>2004</b>	4.40%	5.84%	8	11.66%	8.09%	5.50%	0.30%	-3.56%	15.73%	21
<b>2005</b>	0.25%	-0.52%	27	8.49%	5.78%	1.57%	-4.27%	-15.11%	24.23%	42
<b>2006</b>	-1.37%	-1.87%	31	7.23%	3.90%	-3.26%	-7.20%	-16.24%	16.21%	53
<b>2007</b>	1.72%	1.64%	54	12.93%	8.73%	3.53%	-3.05%	-14.41%	11.59%	75
<b>2008</b>	5.99%	5.42%	31	15.23%	10.54%	7.48%	1.05%	-3.50%	10.55%	51
<b>2009</b>	8.74%	7.03%	20	15.10%	10.98%	8.88%	2.91%	-5.62%	8.60%	25
<b>2010</b>	15.93%	11.47%	22	19.70%	17.64%	11.75%	7.25%	3.22%	8.03%	38
<b>2011</b>	14.24%	13.66%	37	23.75%	19.92%	14.15%	10.88%	5.47%	8.55%	42
<b>2012</b>	13.89%	12.73%	46	22.89%	16.82%	11.86%	8.58%	3.75%	10.18%	60
<b>2013</b>	11.37%	9.75%	48	21.96%	14.76%	11.23%	6.85%	2.26%	13.45%	48
<b>2014</b>	9.68%	10.45%	52	15.41%	12.55%	9.20%	6.37%	2.42%	6.24%	49
<b>2015</b>	11.97%	10.26%	69	19.09%	13.82%	11.19%	8.26%	4.66%	6.19%	55
<b>2016</b>	13.52%	10.66%	53	16.20%	13.30%	9.51%	5.52%	-2.26%	9.47%	49
<b>2017</b>	9.02%	8.78%	59	16.48%	13.00%	8.89%	5.80%	-2.83%	7.50%	53
<b>2018</b>	5.98%	4.83%	70	16.88%	11.73%	6.60%	2.28%	-20.63%	16.78%	57

Source: PitchBook | Geography: Global | Data as of December 31, 2020

Real estate

# IRRs by vintage





## Real estate

## PMEs by vintage

## S&amp;P 500 index

## Morningstar Global Real Estate Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	10.02%	9.24%	1.14	10.02%			5
1997	13.89%	8.59%	1.42	13.89%			5
1998	4.86%	7.64%	1.23	4.86%			8
1999	11.81%	6.90%	1.72	11.81%	8.27%	1.02	2
2000	16.29%	6.57%	1.56	16.29%	8.22%	1.02	12
2001	26.46%	7.44%	1.51	26.46%	8.11%	1.10	3
2002	8.54%	8.45%	0.97	8.54%	8.66%	0.86	3
2003	7.64%	10.53%	1.02	7.64%	9.32%	0.90	4
2004	4.40%	9.27%	0.91	4.40%	7.11%	0.94	8
2005	0.25%	9.42%	0.69	0.25%	6.23%	0.80	27
2006	-1.37%	9.40%	0.52	-1.37%	4.84%	0.65	31
2007	1.72%	9.13%	0.64	1.72%	2.83%	0.72	54
2008	5.99%	10.18%	0.75	5.99%	4.47%	0.85	31
2009	8.74%	15.81%	0.80	8.74%	12.02%	0.92	20
2010	15.93%	13.61%	1.03	15.93%	7.79%	1.15	22
2011	14.24%	13.14%	1.01	14.24%	6.27%	1.20	37
2012	13.89%	14.02%	1.03	13.89%	7.07%	1.25	46
2013	11.37%	13.92%	0.98	11.37%	5.01%	1.16	48
2014	9.68%	12.53%	0.90	9.68%	5.64%	1.13	52
2015	11.97%	12.14%	0.96	11.97%	3.65%	1.18	69
2016	13.52%	15.72%	0.99	13.52%	6.25%	1.22	53
2017	9.02%	14.16%	0.91	9.02%	4.90%	1.11	59
2018	5.98%	12.16%	0.89	5.98%	2.74%	1.04	70



## 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	1.47x	1.47x	0.00x	1.49x	1.49x	0.00x	5
1997	1.71x	1.71x	0.00x	1.58x	1.58x	0.00x	5
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	1.73x	1.72x	0.01x	12
2001	1.83x	1.83x	0.00x	1.55x	1.55x	0.00x	3
2002	1.23x	1.21x	0.02x	1.51x	1.37x	0.14x	3
2003	1.25x	1.25x	0.00x	1.27x	1.27x	0.00x	4
2004	1.25x	1.18x	0.07x	1.40x	1.27x	0.13x	8
2005	1.01x	1.00x	0.02x	0.97x	0.96x	0.01x	27
2006	0.90x	0.82x	0.08x	0.87x	0.79x	0.08x	31
2007	1.09x	1.05x	0.04x	1.08x	1.04x	0.04x	54
2008	1.25x	1.18x	0.07x	1.25x	1.20x	0.05x	31
2009	1.40x	1.29x	0.11x	1.34x	1.24x	0.10x	20
2010	1.49x	1.43x	0.06x	1.50x	1.37x	0.13x	22
2011	1.59x	1.35x	0.24x	1.64x	1.38x	0.26x	37
2012	1.55x	1.31x	0.23x	1.48x	1.23x	0.25x	46
2013	1.36x	1.02x	0.34x	1.34x	0.97x	0.37x	48
2014	1.38x	0.83x	0.55x	1.41x	0.79x	0.62x	52
2015	1.33x	0.68x	0.65x	1.32x	0.66x	0.66x	69
2016	1.34x	0.41x	0.93x	1.30x	0.44x	0.86x	53
2017	1.17x	0.26x	0.92x	1.19x	0.26x	0.93x	59
2018	1.07x	0.17x	0.90x	1.06x	0.22x	0.85x	70



## Real estate

## 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		1.58x	1.46x	1.13x			1.58x	1.46x	1.13x		5
1997		1.50x	1.42x	1.27x			1.50x	1.41x	1.27x		5
1998		1.39x	1.31x	1.21x			1.39x	1.31x	1.18x		8
1999			1.66x					1.66x			2
2000	2.66x	1.71x	1.48x	1.31x	1.20x	2.66x	1.71x	1.48x	1.30x	1.12x	12
2001			1.52x					1.51x			3
2002			1.38x					1.38x			3
2003		1.36x	1.28x	1.19x			1.36x	1.27x	1.18x		4
2004		1.94x	1.25x	1.05x			1.64x	1.22x	0.91x		8
2005	1.37x	1.12x	0.98x	0.74x	0.51x	1.37x	1.10x	0.95x	0.72x	0.49x	27
2006	1.58x	1.10x	0.73x	0.47x	0.28x	1.30x	1.04x	0.67x	0.38x	0.22x	31
2007	1.66x	1.40x	1.17x	0.82x	0.31x	1.64x	1.34x	1.12x	0.74x	0.30x	54
2008	1.66x	1.50x	1.24x	1.05x	0.57x	1.65x	1.46x	1.23x	1.02x	0.50x	31
2009	1.89x	1.51x	1.36x	1.20x	0.59x	1.85x	1.50x	1.34x	1.07x	0.58x	20
2010	1.76x	1.69x	1.54x	1.37x	1.18x	1.71x	1.60x	1.45x	1.16x	0.96x	22
2011	2.15x	1.87x	1.57x	1.43x	1.18x	2.04x	1.75x	1.30x	1.06x	0.73x	37
2012	1.92x	1.53x	1.42x	1.35x	1.20x	1.80x	1.49x	1.28x	0.96x	0.75x	46
2013	1.61x	1.55x	1.36x	1.16x	1.09x	1.54x	1.32x	1.03x	0.55x	0.40x	48
2014	1.67x	1.53x	1.37x	1.22x	1.15x	1.30x	1.19x	0.81x	0.41x	0.26x	52
2015	1.55x	1.45x	1.32x	1.20x	1.11x	1.28x	0.93x	0.57x	0.24x	0.10x	69
2016	1.62x	1.35x	1.23x	1.13x	0.95x	0.68x	0.57x	0.40x	0.21x	0.04x	53
2017	1.42x	1.28x	1.15x	1.04x	0.94x	0.62x	0.31x	0.15x	0.04x	0.00x	59
2018	1.26x	1.15x	1.06x	0.94x	0.70x	0.51x	0.22x	0.07x	0.01x	0.00x	70



## Real estate

## Quarterly return

Quarter end	1-quarter return
Q1 2001	4.40%
Q2 2001	1.41%
Q3 2001	0.28%
Q4 2001	1.33%
Q1 2002	2.10%
Q2 2002	1.30%
Q3 2002	0.36%
Q4 2002	-0.90%
Q1 2003	-2.17%
Q2 2003	0.92%
Q3 2003	4.90%
Q4 2003	9.72%
Q1 2004	-4.22%
Q2 2004	4.74%
Q3 2004	0.76%
Q4 2004	19.10%
Q1 2005	-3.53%
Q2 2005	5.24%
Q3 2005	9.64%
Q4 2005	13.70%
Q1 2006	2.52%
Q2 2006	6.85%
Q3 2006	9.32%
Q4 2006	20.91%

Quarter end	1-quarter return
Q1 2007	1.64%
Q2 2007	7.26%
Q3 2007	1.56%
Q4 2007	6.21%
Q1 2008	-2.72%
Q2 2008	-4.44%
Q3 2008	-8.56%
Q4 2008	-18.06%
Q1 2009	-24.96%
Q2 2009	-13.81%
Q3 2009	-7.21%
Q4 2009	-6.26%
Q1 2010	-6.99%
Q2 2010	7.11%
Q3 2010	4.56%
Q4 2010	8.33%
Q1 2011	5.79%
Q2 2011	4.15%
Q3 2011	0.23%
Q4 2011	0.14%
Q1 2012	4.51%
Q2 2012	0.24%
Q3 2012	5.35%
Q4 2012	2.07%

Quarter end	1-quarter return
Q1 2013	3.22%
Q2 2013	4.45%
Q3 2013	1.14%
Q4 2013	7.25%
Q1 2014	3.28%
Q2 2014	3.49%
Q3 2014	2.85%
Q4 2014	4.31%
Q1 2015	1.78%
Q2 2015	4.58%
Q3 2015	2.50%
Q4 2015	1.53%
Q1 2016	2.86%
Q2 2016	1.71%
Q3 2016	3.05%
Q4 2016	1.43%
Q1 2017	3.94%
Q2 2017	3.01%
Q3 2017	4.15%
Q4 2017	2.55%
Q1 2018	2.21%
Q2 2018	2.55%
Q3 2018	1.69%
Q4 2018	-0.82%

Quarter end	1-quarter return
Q1 2019	1.62%
Q2 2019	1.86%
Q3 2019	3.01%
Q4 2019	1.39%
Q1 2020	-0.47%
Q2 2020	-2.07%
Q3 2020	2.10%
Q4 2020	3.21%
Q1 2021*	6.71%

\*Preliminary figure

# Real assets

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## Real assets

## IRR by vintage

## Pooled IRRs

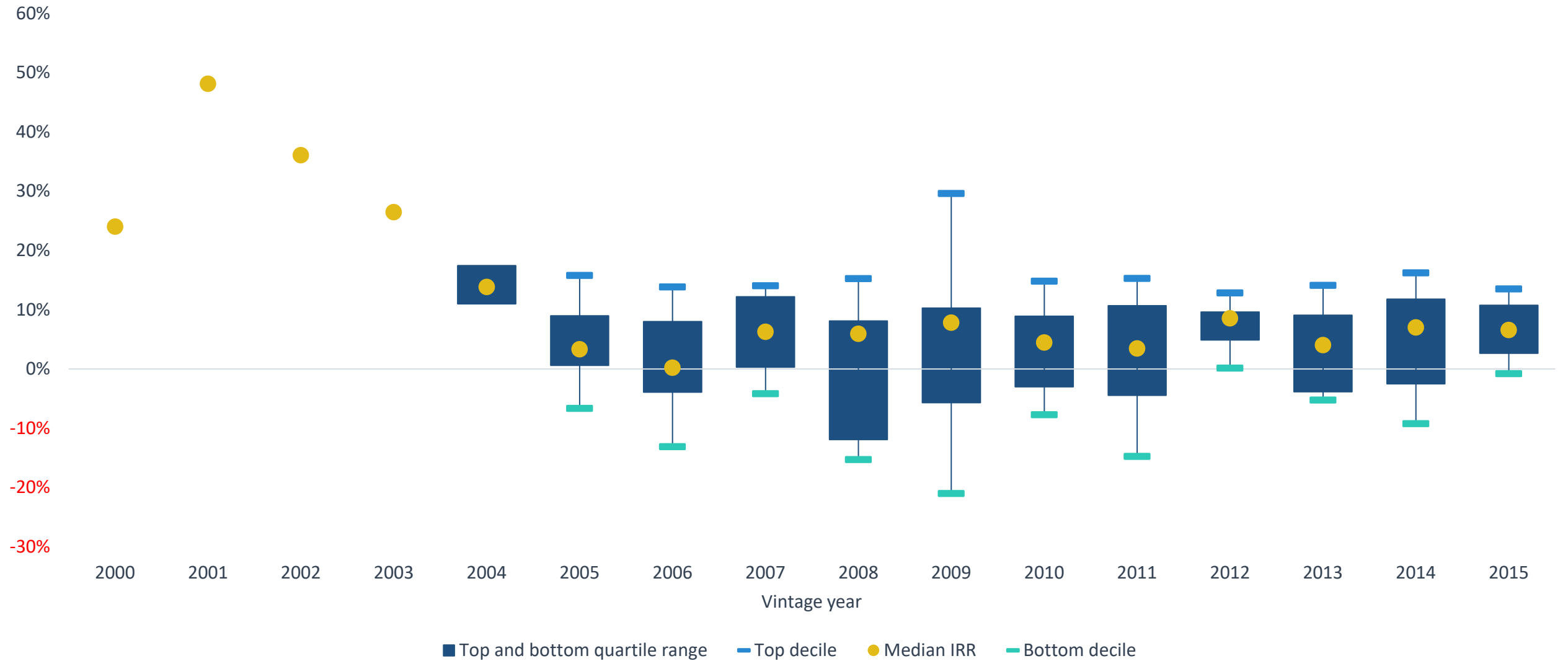
## IRR hurdle rates

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	20.00%	15.31%	8.20%	3.08%	-5.57%	10.52%	11
1996						10.66%			7.86%	3
1997	17.95%		3		28.02%	20.25%	10.69%		17.06%	6
1998	16.47%	18.18%	3		25.98%	20.07%	13.82%		10.09%	4
1999	25.41%	25.41%	1		17.53%	11.35%	4.53%		13.33%	4
2000						24.00%				1
2001	49.72%	49.72%	1			48.10%				1
2002	31.17%	34.54%	3			36.05%			16.02%	3
2003	28.94%	29.45%	2			26.45%			2.47%	2
2004	23.01%	20.61%	4		17.44%	13.83%	11.00%		8.25%	7
2005	7.31%	7.76%	10	15.78%	8.99%	3.32%	0.60%	-6.66%	8.25%	13
2006	4.20%	1.51%	13	13.82%	8.02%	0.21%	-3.92%	-13.11%	13.71%	15
2007	4.94%	4.79%	18	14.03%	12.20%	6.28%	0.31%	-4.18%	10.57%	23
2008	1.63%	3.02%	22	15.23%	8.09%	5.93%	-11.92%	-15.31%	12.93%	16
2009	2.46%	3.40%	11	29.59%	10.29%	7.80%	-5.67%	-21.00%	77.54%	15
2010	4.95%	5.12%	24	14.80%	8.93%	4.47%	-3.02%	-7.72%	11.51%	23
2011	3.68%	2.24%	20	15.27%	10.67%	3.44%	-4.45%	-14.76%	24.55%	23
2012	4.79%	5.90%	27	12.83%	9.60%	8.54%	4.90%	0.12%	6.81%	24
2013	7.13%	4.19%	28	14.10%	9.06%	4.02%	-3.85%	-5.26%	7.78%	25
2014	5.55%	5.17%	44	16.22%	11.80%	7.00%	-2.51%	-9.25%	9.99%	35
2015	2.96%	6.66%	36	13.49%	10.75%	6.55%	2.65%	-0.81%	39.40%	22
2016	9.84%	12.79%	47	17.04%	11.13%	8.17%	0.34%	-10.49%	38.58%	34
2017	5.65%	4.40%	38	16.75%	13.33%	6.72%	-13.20%	-27.45%	18.36%	26
2018	6.49%	4.11%	44	20.06%	10.69%	4.93%	-4.50%	-15.85%	29.99%	33

Source: PitchBook | Geography: Global | Data as of December 31, 2020

Real assets

# IRRs by vintage





## Real assets

## PMEs by vintage

## S&amp;P 500 index

## Morningstar US Real Assets Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996							
1997	17.95%	8.59%	2.10	17.95%			3
1998	16.47%	7.64%	1.87	16.47%			3
1999	25.41%	6.90%	1.75	25.41%			1
2000							
2001	49.72%	7.44%	2.35	49.72%	6.22%	2.09	1
2002	31.17%	8.45%	1.46	31.17%	6.15%	1.42	3
2003	28.94%	10.53%	1.74	28.94%	5.82%	1.69	2
2004	23.01%	9.27%	1.52	23.01%	5.09%	1.39	4
2005	7.31%	9.42%	1.09	7.31%	4.56%	1.06	10
2006	4.20%	9.40%	0.83	4.20%	4.18%	0.97	13
2007	4.94%	9.13%	0.82	4.94%	3.92%	1.00	18
2008	1.63%	10.18%	0.58	1.63%	3.11%	0.89	22
2009	2.46%	15.81%	0.62	2.46%	4.67%	0.98	11
2010	4.95%	13.61%	0.67	4.95%	3.29%	1.13	24
2011	3.68%	13.14%	0.68	3.68%	1.98%	1.09	20
2012	4.79%	14.02%	0.74	4.79%	1.43%	1.13	27
2013	7.13%	13.92%	0.82	7.13%	1.32%	1.23	28
2014	5.55%	12.53%	0.82	5.55%	1.68%	1.11	44
2015	2.96%	12.14%	0.77	2.96%	1.32%	1.03	36
2016	9.84%	15.72%	0.90	9.84%	2.90%	1.19	47
2017	5.65%	14.16%	0.86	5.65%	2.09%	1.07	38
2018	6.49%	12.16%	0.88	6.49%	1.94%	1.07	44

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	2.61x	2.18x	0.44x	4.39x	3.77x	0.62x	3
1998	1.97x	1.95x	0.02x	2.13x	2.12x	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	2.30x	2.30x	0.01x	2.40x	2.39x	0.01x	2
2004	1.75x	1.75x	0.00x	1.77x	1.77x	0.00x	4
2005	1.43x	1.38x	0.05x	1.47x	1.41x	0.05x	10
2006	1.25x	1.18x	0.07x	1.08x	1.01x	0.07x	13
2007	1.23x	1.18x	0.05x	1.27x	1.18x	0.08x	18
2008	1.09x	0.92x	0.16x	1.18x	0.87x	0.32x	22
2009	1.13x	0.89x	0.24x	1.18x	0.83x	0.35x	11
2010	1.28x	0.86x	0.42x	1.32x	0.74x	0.58x	24
2011	1.17x	0.73x	0.44x	1.12x	0.62x	0.50x	20
2012	1.20x	0.71x	0.48x	1.26x	0.74x	0.52x	27
2013	1.30x	0.62x	0.68x	1.17x	0.56x	0.60x	28
2014	1.17x	0.49x	0.68x	1.18x	0.46x	0.72x	44
2015	1.08x	0.33x	0.75x	1.19x	0.38x	0.80x	36
2016	1.25x	0.31x	0.94x	1.36x	0.56x	0.80x	47
2017	1.11x	0.18x	0.93x	1.09x	0.17x	0.92x	38
2018	1.10x	0.12x	0.98x	1.07x	0.13x	0.94x	44

Source: PitchBook | Geography: Global | Data as of December 31, 2020



## Real assets

## 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			2.47x					2.47x			1
1996											
1997			3.54x					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	2.29x	1.70x	1.31x	1.05x	0.92x	2.19x	1.70x	1.29x	1.05x	0.90x	10
2006	1.79x	1.17x	0.96x	0.76x	0.64x	1.79x	1.16x	0.91x	0.62x	0.54x	13
2007	1.83x	1.50x	1.17x	1.02x	0.91x	1.78x	1.40x	1.09x	0.96x	0.74x	18
2008	1.90x	1.59x	0.96x	0.63x	0.53x	1.80x	0.99x	0.63x	0.52x	0.17x	22
2009	2.20x	1.43x	1.18x	0.68x	0.41x	1.17x	1.12x	0.85x	0.30x	0.20x	11
2010	1.99x	1.72x	1.30x	0.93x	0.68x	1.45x	1.01x	0.62x	0.34x	0.27x	24
2011	1.98x	1.36x	1.15x	0.73x	0.40x	1.22x	0.96x	0.47x	0.34x	0.10x	20
2012	1.73x	1.50x	1.32x	1.09x	0.82x	1.36x	1.08x	0.71x	0.33x	0.16x	27
2013	1.61x	1.47x	1.21x	0.87x	0.72x	1.12x	0.96x	0.41x	0.29x	0.12x	28
2014	1.62x	1.36x	1.17x	0.98x	0.71x	0.85x	0.60x	0.35x	0.21x	0.06x	44
2015	1.55x	1.34x	1.14x	1.00x	0.90x	0.71x	0.48x	0.28x	0.13x	0.09x	36
2016	1.65x	1.33x	1.22x	1.05x	0.87x	0.91x	0.45x	0.28x	0.15x	0.05x	47
2017	1.50x	1.24x	1.03x	0.82x	0.67x	0.42x	0.23x	0.09x	0.01x	0.00x	38
2018	1.30x	1.14x	1.06x	0.91x	0.83x	0.35x	0.15x	0.06x	0.00x	0.00x	44



## 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	11.52%
Q4 2005	2.35%
Q1 2006	2.67%
Q2 2006	12.39%
Q3 2006	6.50%
Q4 2006	7.26%

Quarter end	1-quarter return
Q1 2007	3.72%
Q2 2007	3.77%
Q3 2007	9.53%
Q4 2007	9.87%
Q1 2008	1.43%
Q2 2008	2.66%
Q3 2008	6.36%
Q4 2008	-8.64%
Q1 2009	-3.09%
Q2 2009	-0.81%
Q3 2009	3.42%
Q4 2009	3.36%
Q1 2010	-0.45%
Q2 2010	0.24%
Q3 2010	3.93%
Q4 2010	8.27%
Q1 2011	5.04%
Q2 2011	3.86%
Q3 2011	-1.68%
Q4 2011	4.33%
Q1 2012	2.03%
Q2 2012	-1.50%
Q3 2012	0.36%
Q4 2012	2.18%

Quarter end	1-quarter return
Q1 2013	3.63%
Q2 2013	-0.53%
Q3 2013	2.73%
Q4 2013	1.48%
Q1 2014	3.66%
Q2 2014	6.53%
Q3 2014	3.38%
Q4 2014	-4.19%
Q1 2015	-1.23%
Q2 2015	2.32%
Q3 2015	-3.10%
Q4 2015	-1.92%
Q1 2016	-0.41%
Q2 2016	5.21%
Q3 2016	2.70%
Q4 2016	4.40%
Q1 2017	3.70%
Q2 2017	2.57%
Q3 2017	1.73%
Q4 2017	2.15%
Q1 2018	2.90%
Q2 2018	2.74%
Q3 2018	4.99%
Q4 2018	-1.75%

Quarter end	1-quarter return
Q1 2019	1.41%
Q2 2019	-0.91%
Q3 2019	-0.20%
Q4 2019	-0.78%
Q1 2020	-9.55%
Q2 2020	2.73%
Q3 2020	1.61%
Q4 2020	3.80%
Q1 2021*	1.46%

\*Preliminary figure

# Private debt

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Private debt

# IRRs by vintage

Pooled IRRs

IRR hurdle rates

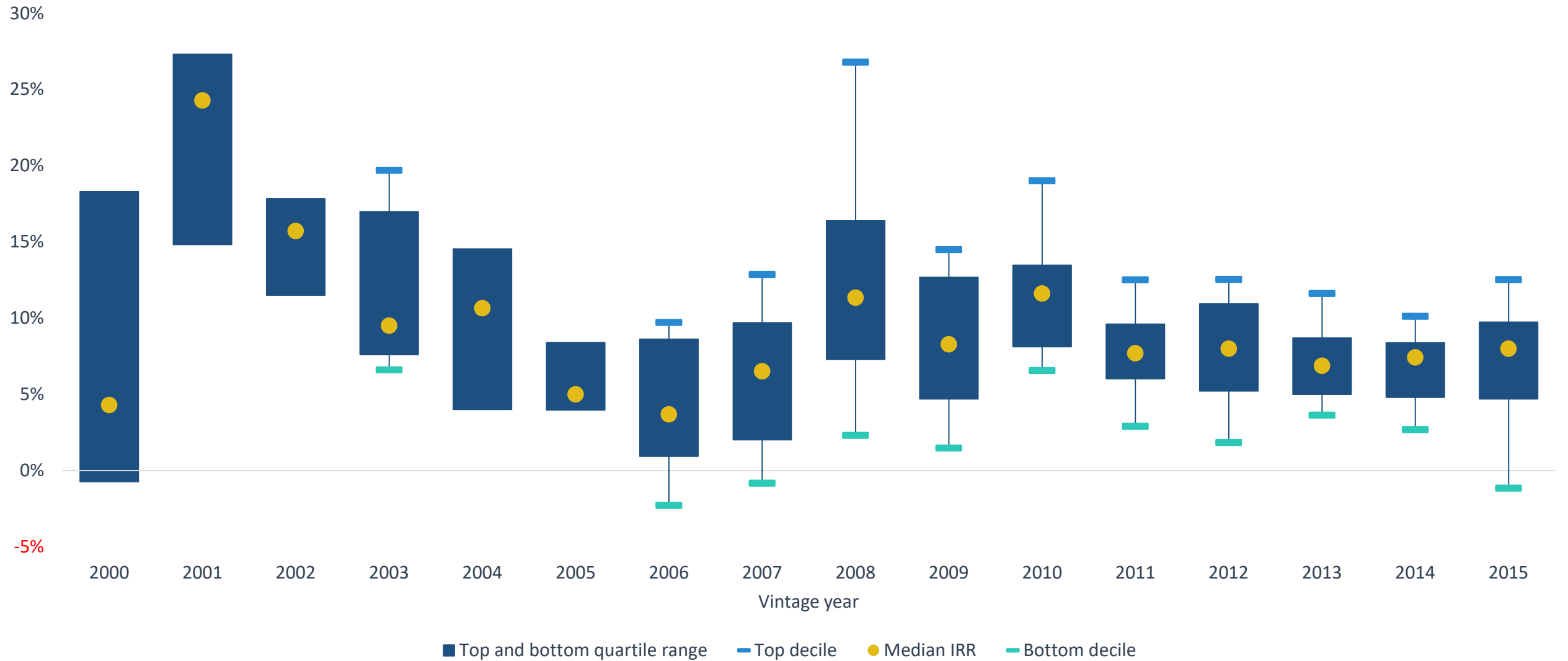
Vintage year	Pooled IRR	Equal-weighted pooled IRR	Number of funds	Top decile	Top quartile	Median IRR	Bottom quartile	Bottom decile	Standard deviation	Number of funds
Pre-1996				24.54%	16.83%	10.76%	2.64%	-4.41%	19.54%	10
1996	6.01%	6.01%	1			5.40%				1
1997	10.84%	16.51%	3		35.20%	21.68%	8.45%		23.13%	5
1998						10.66%			6.56%	2
1999	11.58%	10.99%	2			10.52%			2.01%	2
2000	8.05%	0.96%	4		18.30%	4.30%	-0.72%		15.59%	5
2001	27.60%	29.93%	3		27.32%	24.28%	14.83%		15.58%	4
2002	17.99%	22.75%	5		17.85%	15.71%	11.51%		26.80%	6
2003	13.44%	13.60%	8	19.70%	16.99%	9.50%	7.61%	6.60%	7.59%	11
2004	6.48%	8.99%	5		14.54%	10.66%	4.02%		14.19%	8
2005	6.03%	5.71%	7		8.40%	5.00%	3.98%		5.86%	9
2006	6.68%	5.42%	13	9.71%	8.62%	3.69%	0.95%	-2.29%	6.86%	14
2007	6.18%	5.99%	21	12.87%	9.70%	6.52%	2.03%	-0.83%	6.96%	23
2008	14.22%	12.94%	20	26.80%	16.39%	11.35%	7.29%	2.31%	21.40%	26
2009	8.26%	8.48%	12	14.49%	12.69%	8.28%	4.70%	1.48%	7.67%	13
2010	14.46%	11.81%	22	19.01%	13.48%	11.61%	8.13%	6.57%	7.96%	29
2011	8.37%	9.53%	15	12.51%	9.61%	7.70%	6.03%	2.91%	4.46%	24
2012	6.14%	5.89%	29	12.55%	10.94%	8.00%	5.23%	1.84%	4.94%	36
2013	6.44%	7.57%	37	11.61%	8.70%	6.88%	5.00%	3.64%	3.72%	32
2014	5.51%	7.57%	46	10.12%	8.39%	7.42%	4.80%	2.69%	3.47%	35
2015	5.62%	5.03%	56	12.53%	9.74%	8.00%	4.70%	-1.15%	7.61%	45
2016	4.97%	7.54%	50	14.60%	11.38%	7.25%	5.81%	-4.16%	11.39%	35
2017	7.45%	8.41%	55	24.59%	13.80%	8.90%	6.28%	4.00%	8.72%	59
2018	5.22%	4.96%	57	16.67%	12.03%	8.83%	6.15%	4.14%	8.05%	48

Source: PitchBook | Geography: Global | Data as of December 31, 2020



Private debt

# IRRs by vintage





## Private debt

## PMEs by vintage

## S&amp;P 500 index

## Bloomberg Barclays Global High Yield Corporate Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	6.01%	9.24%	1.36	6.01%			1
1997	10.84%	8.59%	1.55	10.84%			3
1998							
1999	11.58%	6.90%	1.76	11.58%			2
2000	8.05%	6.57%	1.19	8.05%			4
2001	27.60%	7.44%	1.62	27.60%	7.53%	1.39	3
2002	17.99%	8.45%	1.31	17.99%	8.04%	1.18	5
2003	13.44%	10.53%	1.35	13.44%	8.21%	1.25	8
2004	6.48%	9.27%	1.05	6.48%	7.18%	0.97	5
2005	6.03%	9.42%	1.16	6.03%	7.00%	0.90	7
2006	6.68%	9.40%	0.91	6.68%	7.16%	0.85	13
2007	6.18%	9.13%	0.95	6.18%	6.75%	0.83	21
2008	14.22%	10.18%	1.05	14.22%	7.43%	0.98	20
2009	8.26%	15.81%	0.82	8.26%	10.51%	0.97	12
2010	14.46%	13.61%	0.99	14.46%	6.76%	1.23	22
2011	8.37%	13.14%	0.80	8.37%	5.95%	1.08	15
2012	6.14%	14.02%	0.78	6.14%	6.15%	1.03	29
2013	6.44%	13.92%	0.85	6.44%	5.05%	1.04	37
2014	5.51%	12.53%	0.80	5.51%	4.56%	1.00	46
2015	5.62%	12.14%	0.83	5.62%	5.60%	0.99	56
2016	4.97%	15.72%	0.84	4.97%	8.07%	0.97	50
2017	7.45%	14.16%	0.89	7.45%	5.87%	1.02	55
2018	5.22%	12.16%	0.87	5.22%	4.90%	0.97	57



## 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	2.19x	2.18x	0.02x	3
1998							
1999	1.49x	1.48x	0.01x	1.48x	1.45x	0.03x	2
2000	1.26x	1.26x	0.00x	1.04x	1.03x	0.01x	4
2001	2.13x	2.13x	0.00x	2.20x	2.20x	0.00x	3
2002	1.75x	1.75x	0.00x	1.81x	1.81x	0.00x	5
2003	1.92x	1.88x	0.04x	2.00x	1.97x	0.03x	8
2004	1.27x	1.25x	0.02x	1.41x	1.39x	0.02x	5
2005	1.35x	1.34x	0.02x	1.30x	1.26x	0.04x	7
2006	1.51x	1.38x	0.13x	1.38x	1.23x	0.15x	13
2007	1.31x	1.29x	0.02x	1.29x	1.26x	0.03x	21
2008	1.68x	1.64x	0.04x	1.60x	1.55x	0.05x	20
2009	1.37x	1.31x	0.06x	1.33x	1.24x	0.09x	12
2010	1.52x	1.47x	0.05x	1.46x	1.38x	0.08x	22
2011	1.41x	1.16x	0.25x	1.42x	1.25x	0.18x	15
2012	1.25x	1.08x	0.17x	1.25x	0.98x	0.26x	29
2013	1.22x	0.92x	0.30x	1.27x	0.90x	0.37x	37
2014	1.21x	0.71x	0.49x	1.27x	0.78x	0.49x	46
2015	1.16x	0.55x	0.61x	1.15x	0.54x	0.60x	56
2016	1.09x	0.34x	0.76x	1.16x	0.43x	0.73x	50
2017	1.13x	0.29x	0.84x	1.15x	0.31x	0.84x	55
2018	1.07x	0.16x	0.91x	1.07x	0.26x	0.81x	57

Source: PitchBook | Geography: Global | Data as of December 31, 2020



## Private debt

## 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			1.45x					1.45x			1
1997			1.49x					1.49x			3
1998											
1999			1.48x					1.44x			2
2000		1.34x	1.11x	0.79x			1.32x	1.09x	0.79x		4
2001			1.88x					1.88x			3
2002		1.72x	1.69x	1.69x			1.72x	1.69x	1.69x		5
2003		2.07x	1.54x	1.47x			2.01x	1.54x	1.47x		8
2004		1.65x	1.64x	1.14x			1.65x	1.63x	1.14x		5
2005		1.47x	1.34x	1.25x			1.47x	1.34x	1.14x		7
2006	1.73x	1.40x	1.19x	1.10x	0.93x	1.70x	1.36x	1.18x	1.10x	0.92x	13
2007	1.68x	1.55x	1.24x	1.08x	0.96x	1.68x	1.49x	1.23x	1.06x	0.91x	21
2008	2.24x	1.74x	1.48x	1.17x	1.13x	2.23x	1.70x	1.48x	1.17x	1.04x	20
2009	1.64x	1.56x	1.39x	1.13x	1.05x	1.64x	1.56x	1.26x	1.05x	0.93x	12
2010	1.80x	1.55x	1.38x	1.29x	1.23x	1.71x	1.49x	1.34x	1.19x	1.16x	22
2011	1.75x	1.53x	1.33x	1.17x	1.06x	1.61x	1.35x	1.13x	1.05x	0.91x	15
2012	1.59x	1.42x	1.20x	1.09x	0.95x	1.37x	1.25x	1.09x	0.88x	0.46x	29
2013	1.57x	1.35x	1.18x	1.12x	0.97x	1.20x	1.10x	0.95x	0.80x	0.55x	37
2014	1.61x	1.30x	1.20x	1.13x	1.04x	1.21x	0.95x	0.77x	0.50x	0.30x	46
2015	1.32x	1.26x	1.18x	1.11x	0.93x	0.83x	0.72x	0.54x	0.34x	0.23x	56
2016	1.33x	1.24x	1.14x	1.02x	0.86x	0.86x	0.50x	0.34x	0.16x	0.05x	50
2017	1.31x	1.20x	1.12x	1.09x	1.00x	0.59x	0.44x	0.25x	0.16x	0.07x	55
2018	1.18x	1.14x	1.09x	1.02x	0.95x	0.48x	0.34x	0.17x	0.05x	0.00x	57

Source: PitchBook | Geography: Global | Data as of December 31, 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	1.35%
Q3 2002	-1.83%
Q4 2002	1.32%
Q1 2003	3.13%
Q2 2003	7.51%
Q3 2003	-2.24%
Q4 2003	10.28%
Q1 2004	7.71%
Q2 2004	7.65%
Q3 2004	4.48%
Q4 2004	17.96%
Q1 2005	5.35%
Q2 2005	-4.69%
Q3 2005	6.23%
Q4 2005	2.58%
Q1 2006	3.68%
Q2 2006	5.93%
Q3 2006	2.54%
Q4 2006	10.33%

Quarter end	1-quarter return
Q1 2007	2.92%
Q2 2007	8.47%
Q3 2007	3.01%
Q4 2007	0.04%
Q1 2008	-1.79%
Q2 2008	-1.50%
Q3 2008	-8.34%
Q4 2008	-17.39%
Q1 2009	-4.70%
Q2 2009	10.02%
Q3 2009	12.06%
Q4 2009	6.56%
Q1 2010	6.20%
Q2 2010	1.76%
Q3 2010	3.31%
Q4 2010	7.85%
Q1 2011	2.94%
Q2 2011	2.58%
Q3 2011	-4.68%
Q4 2011	1.63%
Q1 2012	5.78%
Q2 2012	2.22%
Q3 2012	4.19%
Q4 2012	3.32%

Quarter end	1-quarter return
Q1 2013	5.10%
Q2 2013	2.98%
Q3 2013	2.98%
Q4 2013	2.00%
Q1 2014	1.93%
Q2 2014	2.55%
Q3 2014	2.90%
Q4 2014	0.25%
Q1 2015	5.68%
Q2 2015	-0.87%
Q3 2015	-0.01%
Q4 2015	-1.56%
Q1 2016	1.36%
Q2 2016	1.01%
Q3 2016	4.44%
Q4 2016	1.39%
Q1 2017	2.28%
Q2 2017	2.62%
Q3 2017	2.27%
Q4 2017	3.85%
Q1 2018	2.45%
Q2 2018	2.96%
Q3 2018	-0.31%
Q4 2018	0.05%

Quarter end	1-quarter return
Q1 2019	1.22%
Q2 2019	1.61%
Q3 2019	1.94%
Q4 2019	2.13%
Q1 2020	-6.92%
Q2 2020	1.86%
Q3 2020	4.28%
Q4 2020	4.63%
Q1 2021*	0.43%

\*Preliminary figure

# Funds of funds

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## Funds of funds

## IRR by vintage

## Pooled IRRs

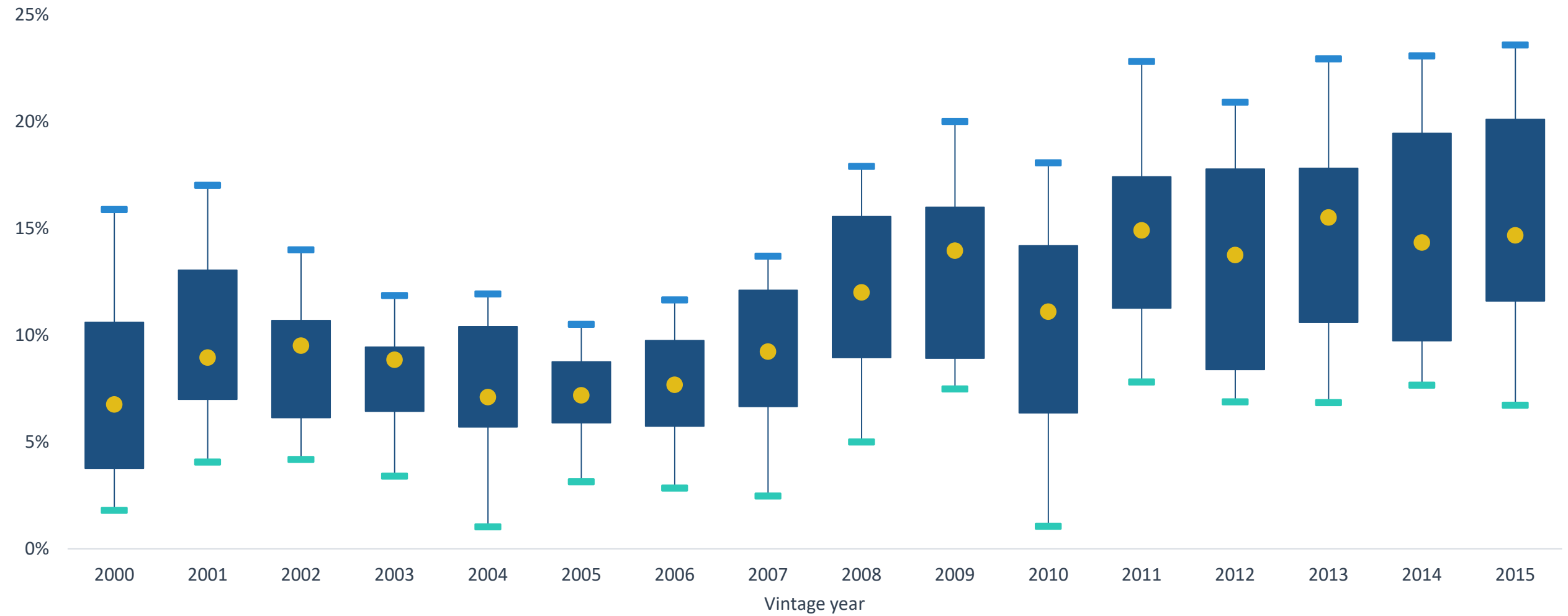
## IRR hurdle rates

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				31.28%	19.76%	11.33%	5.19%	1.73%	16.83%	11
1996						14.24%				1
1997	-13.89%	-13.86%	2		0.38%	-1.80%	-13.50%		12.03%	5
1998	7.86%	7.64%	3		11.22%	7.80%	4.03%		8.90%	9
1999	5.50%	4.95%	8	17.00%	11.69%	4.09%	2.34%	-1.87%	6.97%	16
2000	5.69%	6.40%	9	15.88%	10.60%	6.75%	3.77%	1.80%	5.38%	23
2001	10.73%	8.02%	9	17.01%	13.04%	8.95%	7.00%	4.06%	5.56%	25
2002	7.78%	6.16%	4	13.99%	10.68%	9.51%	6.14%	4.18%	4.16%	18
2003	7.82%	5.77%	6	11.85%	9.44%	8.85%	6.44%	3.40%	3.75%	16
2004	8.02%	7.85%	9	11.92%	10.40%	7.10%	5.70%	1.03%	4.18%	37
2005	7.59%	6.70%	19	10.50%	8.76%	7.18%	5.90%	3.14%	3.73%	51
2006	8.58%	8.13%	36	11.65%	9.75%	7.67%	5.74%	2.84%	3.32%	72
2007	9.03%	7.93%	41	13.69%	12.10%	9.23%	6.66%	2.47%	5.51%	72
2008	3.84%	10.70%	40	17.89%	15.55%	12.00%	8.95%	5.00%	5.63%	66
2009	12.66%	12.56%	29	20.00%	15.99%	13.95%	8.92%	7.48%	5.42%	38
2010	11.90%	12.66%	31	18.07%	14.18%	11.10%	6.37%	1.05%	7.61%	46
2011	14.04%	15.20%	47	22.80%	17.41%	14.90%	11.27%	7.80%	7.37%	51
2012	14.67%	14.35%	42	20.90%	17.78%	13.74%	8.39%	6.88%	6.83%	38
2013	13.83%	14.13%	44	22.92%	17.81%	15.50%	10.60%	6.84%	6.25%	33
2014	15.78%	15.35%	44	23.06%	19.45%	14.33%	9.74%	7.66%	6.28%	40
2015	16.06%	14.96%	43	23.57%	20.10%	14.67%	11.60%	6.72%	7.70%	45
2016	15.74%	15.94%	35	24.12%	20.32%	15.02%	10.91%	8.05%	8.05%	36
2017	13.10%	15.36%	24	30.60%	25.63%	13.12%	8.32%	6.14%	11.36%	24
2018	14.08%	14.62%	34	32.52%	25.60%	15.32%	11.85%	6.65%	11.73%	26

Source: PitchBook | Geography: Global | Data as of December 31, 2020

Funds of funds

# IRRs by vintage



■ Top and bottom quartile range   ■ Top decile   ● Median IRR   ■ Bottom decile





## Funds of funds

## PMEs by vintage

## S&amp;P 500 index

## MSCI All Country World Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996							
1997	-13.89%	8.59%	0.26	-13.89%	7.09%	0.24	2
1998	7.86%	7.64%	1.25	7.86%	6.47%	1.12	3
1999	5.50%	6.90%	1.05	5.50%	6.11%	0.96	8
2000	5.69%	6.57%	1.00	5.69%	5.46%	0.93	9
2001	10.73%	7.44%	1.11	10.73%	6.59%	1.06	9
2002	7.78%	8.45%	1.05	7.78%	7.80%	1.03	4
2003	7.82%	10.53%	1.05	7.82%	9.62%	1.14	6
2004	8.02%	9.27%	1.01	8.02%	7.95%	1.10	9
2005	7.59%	9.42%	0.95	7.59%	7.69%	1.09	19
2006	8.58%	9.40%	0.89	8.58%	7.08%	1.07	36
2007	9.03%	9.13%	0.85	9.03%	6.36%	1.03	41
2008	3.84%	10.18%	0.59	3.84%	6.73%	0.73	40
2009	12.66%	15.81%	0.94	12.66%	12.57%	1.12	29
2010	11.90%	13.61%	0.93	11.90%	9.62%	1.11	31
2011	14.04%	13.14%	1.02	14.04%	8.91%	1.19	47
2012	14.67%	14.02%	1.07	14.67%	10.22%	1.23	42
2013	13.83%	13.92%	1.02	13.83%	9.87%	1.14	44
2014	15.78%	12.53%	1.08	15.78%	8.88%	1.19	44
2015	16.06%	12.14%	1.04	16.06%	9.19%	1.12	43
2016	15.74%	15.72%	1.02	15.74%	13.24%	1.09	35
2017	13.10%	14.16%	0.96	13.10%	11.59%	1.00	24
2018	14.08%	12.16%	0.97	14.08%	8.11%	1.00	34



## 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	0.31x	0.31x	0.00x	0.32x	0.32x	0.00x	2
1998	1.49x	1.48x	0.01x	1.52x	1.50x	0.01x	3
1999	1.36x	1.33x	0.03x	1.33x	1.29x	0.05x	8
2000	1.35x	1.32x	0.03x	1.39x	1.36x	0.03x	9
2001	1.65x	1.56x	0.10x	1.55x	1.40x	0.15x	9
2002	1.44x	1.41x	0.03x	1.33x	1.31x	0.02x	4
2003	1.62x	1.54x	0.08x	1.42x	1.34x	0.07x	6
2004	1.54x	1.42x	0.13x	1.57x	1.42x	0.15x	9
2005	1.55x	1.41x	0.14x	1.49x	1.33x	0.16x	19
2006	1.67x	1.42x	0.25x	1.65x	1.39x	0.25x	36
2007	1.65x	1.32x	0.33x	1.56x	1.27x	0.29x	41
2008	1.24x	0.89x	0.35x	1.78x	1.19x	0.59x	40
2009	1.83x	1.12x	0.71x	1.79x	1.23x	0.56x	29
2010	1.76x	1.13x	0.63x	1.88x	1.04x	0.83x	31
2011	1.82x	0.90x	0.92x	1.96x	0.91x	1.05x	47
2012	1.88x	0.65x	1.22x	1.84x	0.67x	1.17x	42
2013	1.62x	0.49x	1.13x	1.68x	0.47x	1.20x	44
2014	1.67x	0.37x	1.30x	1.70x	0.42x	1.28x	44
2015	1.48x	0.24x	1.24x	1.48x	0.27x	1.21x	43
2016	1.43x	0.22x	1.21x	1.43x	0.20x	1.23x	35
2017	1.22x	0.07x	1.15x	1.29x	0.09x	1.20x	24
2018	1.19x	0.08x	1.11x	1.21x	0.10x	1.10x	34

Source: PitchBook | Geography: Global | Data as of December 31, 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			0.32x					0.32x			2
1998			1.56x					1.56x			3
1999		1.46x	1.24x	1.14x			1.46x	1.21x	1.14x		8
2000		1.57x	1.50x	1.23x			1.57x	1.48x	1.19x		9
2001		1.70x	1.54x	1.48x			1.70x	1.48x	1.33x		9
2002		1.45x	1.40x	1.28x			1.43x	1.40x	1.28x		4
2003		1.65x	1.53x	1.27x			1.51x	1.47x	1.22x		6
2004		1.57x	1.53x	1.42x			1.44x	1.39x	1.32x		9
2005	1.77x	1.64x	1.53x	1.41x	1.25x	1.68x	1.52x	1.32x	1.23x	0.92x	19
2006	1.96x	1.80x	1.63x	1.44x	1.26x	1.70x	1.54x	1.33x	1.23x	1.13x	36
2007	2.09x	1.86x	1.54x	1.25x	1.01x	1.72x	1.47x	1.32x	0.95x	0.71x	41
2008	2.60x	2.13x	1.71x	1.38x	1.03x	1.67x	1.41x	1.18x	0.93x	0.57x	40
2009	2.40x	2.02x	1.77x	1.46x	1.17x	1.92x	1.56x	1.09x	0.92x	0.72x	29
2010	2.77x	1.94x	1.73x	1.51x	1.32x	1.40x	1.19x	1.04x	0.89x	0.65x	31
2011	2.59x	2.12x	1.80x	1.43x	1.21x	1.20x	1.05x	0.95x	0.76x	0.33x	47
2012	2.89x	2.35x	1.57x	1.37x	1.22x	1.31x	0.85x	0.57x	0.36x	0.25x	42
2013	2.28x	1.87x	1.61x	1.38x	1.12x	0.88x	0.66x	0.38x	0.26x	0.17x	44
2014	2.29x	2.11x	1.53x	1.34x	1.18x	0.91x	0.44x	0.28x	0.20x	0.13x	44
2015	1.95x	1.69x	1.47x	1.27x	1.13x	0.59x	0.34x	0.21x	0.11x	0.01x	43
2016	1.73x	1.57x	1.42x	1.21x	1.15x	0.46x	0.18x	0.13x	0.04x	0.00x	35
2017	1.49x	1.38x	1.23x	1.15x	1.06x	0.17x	0.13x	0.07x	0.03x	0.00x	24
2018	1.50x	1.24x	1.15x	1.10x	1.04x	0.26x	0.06x	0.01x	0.00x	0.00x	34

Source: PitchBook | Geography: Global | Data as of December 31, 2020



## Funds of funds

## Quarterly return

Quarter end	1-quarter return
Q1 2001	-10.12%
Q2 2001	-5.57%
Q3 2001	-10.00%
Q4 2001	-5.99%
Q1 2002	-9.57%
Q2 2002	-5.84%
Q3 2002	-7.21%
Q4 2002	-5.03%
Q1 2003	-8.48%
Q2 2003	4.02%
Q3 2003	0.27%
Q4 2003	-5.66%
Q1 2004	4.42%
Q2 2004	1.90%
Q3 2004	4.93%
Q4 2004	6.27%
Q1 2005	1.91%
Q2 2005	5.87%
Q3 2005	5.71%
Q4 2005	8.02%
Q1 2006	4.52%
Q2 2006	6.11%
Q3 2006	4.79%
Q4 2006	8.36%

Quarter end	1-quarter return
Q1 2007	0.95%
Q2 2007	11.31%
Q3 2007	4.00%
Q4 2007	3.69%
Q1 2008	9.83%
Q2 2008	-1.99%
Q3 2008	-6.45%
Q4 2008	-10.56%
Q1 2009	-2.04%
Q2 2009	-4.94%
Q3 2009	5.27%
Q4 2009	2.81%
Q1 2010	5.04%
Q2 2010	-0.76%
Q3 2010	4.83%
Q4 2010	2.66%
Q1 2011	3.51%
Q2 2011	5.72%
Q3 2011	-1.82%
Q4 2011	-0.15%
Q1 2012	5.27%
Q2 2012	0.99%
Q3 2012	-0.47%
Q4 2012	3.22%

Quarter end	1-quarter return
Q1 2013	2.52%
Q2 2013	3.21%
Q3 2013	2.81%
Q4 2013	3.91%
Q1 2014	2.16%
Q2 2014	6.87%
Q3 2014	1.42%
Q4 2014	2.28%
Q1 2015	3.38%
Q2 2015	6.31%
Q3 2015	2.22%
Q4 2015	-0.01%
Q1 2016	1.55%
Q2 2016	1.29%
Q3 2016	4.15%
Q4 2016	0.35%
Q1 2017	3.17%
Q2 2017	3.87%
Q3 2017	3.51%
Q4 2017	1.81%
Q1 2018	5.22%
Q2 2018	5.54%
Q3 2018	3.11%
Q4 2018	1.50%

Quarter end	1-quarter return
Q1 2019	2.79%
Q2 2019	3.59%
Q3 2019	1.56%
Q4 2019	2.67%
Q1 2020	-1.67%
Q2 2020	4.47%
Q3 2020	9.46%
Q4 2020	5.50%
Q1 2021*	10.50%

\*Preliminary figure

# Secondaries

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## Secondaries

## IRR by vintage

## Pooled IRRs

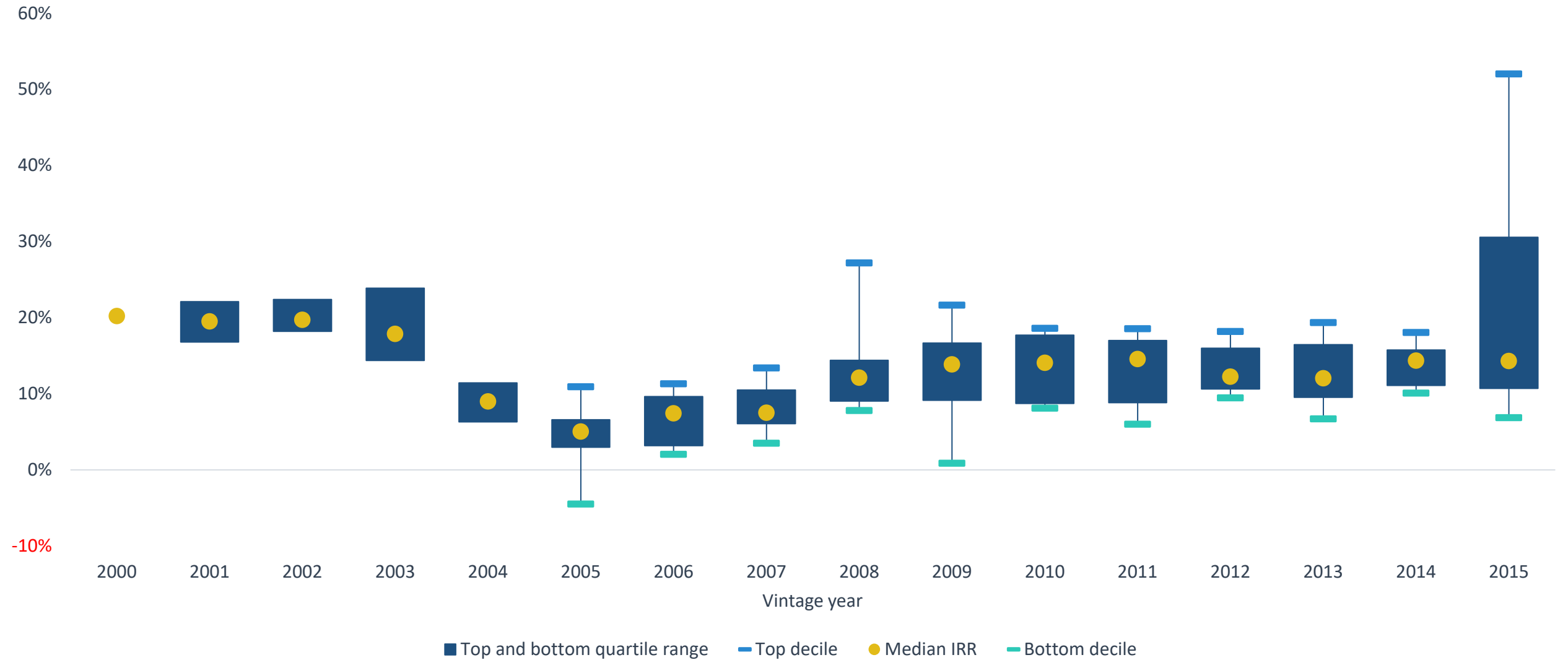
## IRR hurdle rates

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
<b>Pre-1996</b>					34.85%	28.69%	18.86%		13.24%	9
<b>1996</b>	18.56%	18.56%	1			13.16%			14.26%	3
<b>1997</b>	16.60%	16.60%	1			9.61%			9.89%	2
<b>1998</b>	8.97%	11.56%	3		8.02%	5.38%	4.39%		8.35%	7
<b>1999</b>	7.33%	5.51%	3		15.03%	8.37%	2.81%		13.72%	8
<b>2000</b>	15.09%	14.35%	3			20.20%			10.00%	3
<b>2001</b>	14.17%	16.11%	2		22.11%	19.52%	16.80%		5.49%	5
<b>2002</b>	16.07%	18.06%	4		22.40%	19.72%	18.20%		4.62%	5
<b>2003</b>	37.92%	37.92%	1		23.89%	17.87%	14.37%		7.87%	8
<b>2004</b>	11.29%	11.94%	4		11.44%	9.00%	6.30%		7.81%	5
<b>2005</b>	6.24%	5.90%	10	10.90%	6.59%	5.02%	2.98%	-4.51%	12.62%	12
<b>2006</b>	5.86%	6.05%	10	11.30%	9.65%	7.43%	3.18%	2.03%	4.67%	14
<b>2007</b>	5.68%	8.97%	10	13.39%	10.49%	7.50%	6.08%	3.50%	9.04%	11
<b>2008</b>	11.26%	11.76%	16	27.18%	14.40%	12.12%	9.05%	7.79%	8.26%	13
<b>2009</b>	11.31%	10.50%	11	21.65%	16.66%	13.87%	9.15%	0.87%	8.05%	10
<b>2010</b>	11.87%	13.46%	5	18.60%	17.70%	14.07%	8.74%	8.11%	4.23%	13
<b>2011</b>	14.47%	13.35%	11	18.54%	17.00%	14.55%	8.82%	5.99%	5.65%	13
<b>2012</b>	11.70%	10.75%	11	18.19%	16.01%	12.25%	10.62%	9.45%	4.14%	12
<b>2013</b>	9.51%	9.07%	15	19.35%	16.45%	12.04%	9.54%	6.70%	10.89%	16
<b>2014</b>	13.99%	17.76%	10	18.05%	15.77%	14.35%	11.11%	10.09%	7.19%	10
<b>2015</b>	12.18%	16.86%	11	52.02%	30.57%	14.31%	10.70%	6.86%	41.37%	15
<b>2016</b>	16.35%	20.89%	18	45.24%	38.74%	19.60%	16.91%	10.73%	14.38%	17
<b>2017</b>	14.58%	12.17%	16	22.10%	20.04%	12.00%	9.78%	5.59%	9.71%	17
<b>2018</b>	18.07%	26.24%	10	96.42%	62.91%	25.52%	16.97%	6.29%	36.11%	10

Source: PitchBook | Geography: Global | Data as of December 31, 2020

Secondaries

# IRRs by vintage





## Secondaries

## PMEs by vintage

## S&amp;P 500 index

## MSCI All Country World Index

Vintage year	Pooled IRR	Index return	KS-PME	Pooled IRR	Index return	KS-PME	Number of funds
1996	18.56%	9.24%	1.28	18.56%	7.29%	1.29	1
1997	16.60%	8.59%	1.36	16.60%	7.09%	1.40	1
1998	8.97%	7.64%	1.27	8.97%	6.47%	1.21	3
1999	7.33%	6.90%	1.23	7.33%	6.11%	1.17	3
2000	15.09%	6.57%	1.38	15.09%	5.46%	1.25	3
2001	14.17%	7.44%	1.20	14.17%	6.59%	1.12	2
2002	16.07%	8.45%	1.23	16.07%	7.80%	1.16	4
2003	37.92%	10.53%	1.56	37.92%	9.62%	1.46	1
2004	11.29%	9.27%	1.16	11.29%	7.95%	1.21	4
2005	6.24%	9.42%	0.94	6.24%	7.69%	1.04	10
2006	5.86%	9.40%	0.91	5.86%	7.08%	1.00	10
2007	5.68%	9.13%	0.81	5.68%	6.36%	0.91	10
2008	11.26%	10.18%	0.92	11.26%	6.73%	1.05	16
2009	11.31%	15.81%	0.89	11.31%	12.57%	1.03	11
2010	11.87%	13.61%	0.95	11.87%	9.62%	1.09	5
2011	14.47%	13.14%	1.01	14.47%	8.91%	1.15	11
2012	11.70%	14.02%	0.94	11.70%	10.22%	1.05	11
2013	9.51%	13.92%	0.92	9.51%	9.87%	1.02	15
2014	13.99%	12.53%	1.02	13.99%	8.88%	1.08	10
2015	12.18%	12.14%	0.97	12.18%	9.19%	1.03	11
2016	16.35%	15.72%	1.04	16.35%	13.24%	1.10	18
2017	14.58%	14.16%	0.99	14.58%	11.59%	1.04	16
2018	18.07%	12.16%	1.00	18.07%	8.11%	1.02	10





## 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	1.33x	1.33x	0.00x	1.35x	1.35x	0.00x	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	1.61x	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	1.54x	1.48x	0.05x	1.55x	1.50x	0.05x	4
2005	1.37x	1.34x	0.03x	1.35x	1.32x	0.04x	10
2006	1.32x	1.26x	0.06x	1.33x	1.25x	0.08x	10
2007	1.29x	1.13x	0.15x	1.44x	1.31x	0.14x	10
2008	1.56x	1.42x	0.14x	1.59x	1.43x	0.15x	16
2009	1.54x	1.39x	0.15x	1.49x	1.30x	0.19x	11
2010	1.44x	1.37x	0.07x	1.51x	1.36x	0.15x	5
2011	1.60x	1.33x	0.27x	1.60x	1.22x	0.39x	11
2012	1.42x	1.10x	0.32x	1.37x	1.04x	0.33x	11
2013	1.36x	0.98x	0.38x	1.35x	0.80x	0.55x	15
2014	1.36x	0.75x	0.62x	1.67x	0.79x	0.88x	10
2015	1.30x	0.37x	0.92x	1.37x	0.80x	0.57x	11
2016	1.36x	0.45x	0.91x	1.47x	0.50x	0.97x	18
2017	1.24x	0.29x	0.95x	1.21x	0.28x	0.93x	16
2018	1.15x	0.16x	0.99x	1.33x	0.23x	1.09x	10

Source: PitchBook | Geography: Global | Data as of December 31, 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			1.32x					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		1.66x	1.55x	1.43x			1.59x	1.47x	1.37x		4
2005	1.70x	1.58x	1.30x	1.26x	1.09x	1.67x	1.42x	1.29x	1.25x	1.09x	10
2006	1.55x	1.50x	1.37x	1.23x	1.09x	1.44x	1.37x	1.28x	1.16x	1.06x	10
2007	1.74x	1.61x	1.39x	1.35x	1.13x	1.59x	1.35x	1.31x	1.11x	0.94x	10
2008	1.80x	1.74x	1.51x	1.39x	1.32x	1.68x	1.51x	1.45x	1.28x	1.06x	16
2009	1.71x	1.70x	1.38x	1.23x	1.05x	1.67x	1.50x	1.37x	1.04x	0.78x	11
2010		1.63x	1.44x	1.41x			1.46x	1.41x	1.27x		5
2011	1.95x	1.71x	1.60x	1.41x	1.28x	1.43x	1.35x	1.17x	1.11x	1.09x	11
2012	1.66x	1.56x	1.32x	1.26x	1.22x	1.31x	1.24x	1.16x	0.86x	0.77x	11
2013	1.68x	1.54x	1.39x	1.23x	1.15x	1.13x	1.00x	0.80x	0.65x	0.39x	15
2014	1.86x	1.44x	1.36x	1.33x	1.31x	1.04x	1.03x	0.89x	0.59x	0.39x	10
2015	1.60x	1.53x	1.36x	1.28x	1.18x	1.34x	1.14x	0.89x	0.36x	0.24x	11
2016	1.75x	1.62x	1.39x	1.29x	1.19x	0.85x	0.65x	0.48x	0.32x	0.16x	18
2017	1.47x	1.30x	1.19x	1.09x	1.01x	0.41x	0.38x	0.23x	0.15x	0.11x	16
2018	1.74x	1.48x	1.33x	1.12x	1.04x	0.31x	0.24x	0.14x	0.05x	0.00x	10

Source: PitchBook | Geography: Global | Data as of December 31, 2020



## Secondaries

## Quarterly return

Quarter end	1-quarter return
Q1 2001	-3.14%
Q2 2001	-3.73%
Q3 2001	1.63%
Q4 2001	-3.31%
Q1 2002	4.07%
Q2 2002	2.13%
Q3 2002	-6.34%
Q4 2002	-4.65%
Q1 2003	-3.16%
Q2 2003	1.78%
Q3 2003	0.69%
Q4 2003	2.70%
Q1 2004	8.34%
Q2 2004	5.39%
Q3 2004	6.19%
Q4 2004	7.06%
Q1 2005	6.10%
Q2 2005	2.79%
Q3 2005	4.55%
Q4 2005	1.89%
Q1 2006	8.39%
Q2 2006	4.57%
Q3 2006	3.99%
Q4 2006	6.43%

Quarter end	1-quarter return
Q1 2007	4.08%
Q2 2007	11.69%
Q3 2007	9.18%
Q4 2007	4.49%
Q1 2008	2.01%
Q2 2008	-3.00%
Q3 2008	2.06%
Q4 2008	-6.08%
Q1 2009	-8.90%
Q2 2009	-3.78%
Q3 2009	0.21%
Q4 2009	1.96%
Q1 2010	1.28%
Q2 2010	6.19%
Q3 2010	6.03%
Q4 2010	5.20%
Q1 2011	6.86%
Q2 2011	5.65%
Q3 2011	4.77%
Q4 2011	-3.97%
Q1 2012	4.09%
Q2 2012	2.75%
Q3 2012	4.89%
Q4 2012	2.11%

Quarter end	1-quarter return
Q1 2013	3.19%
Q2 2013	3.57%
Q3 2013	1.96%
Q4 2013	4.90%
Q1 2014	3.66%
Q2 2014	2.74%
Q3 2014	3.30%
Q4 2014	2.84%
Q1 2015	2.42%
Q2 2015	6.69%
Q3 2015	1.34%
Q4 2015	-0.03%
Q1 2016	0.18%
Q2 2016	2.94%
Q3 2016	1.27%
Q4 2016	2.94%
Q1 2017	3.60%
Q2 2017	4.21%
Q3 2017	3.42%
Q4 2017	3.68%
Q1 2018	2.55%
Q2 2018	7.94%
Q3 2018	2.40%
Q4 2018	0.80%

Quarter end	1-quarter return
Q1 2019	2.52%
Q2 2019	5.41%
Q3 2019	0.97%
Q4 2019	3.55%
Q1 2020	-3.44%
Q2 2020	-3.33%
Q3 2020	2.60%
Q4 2020	8.07%
Q1 2021*	6.80%

\*Preliminary figure



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