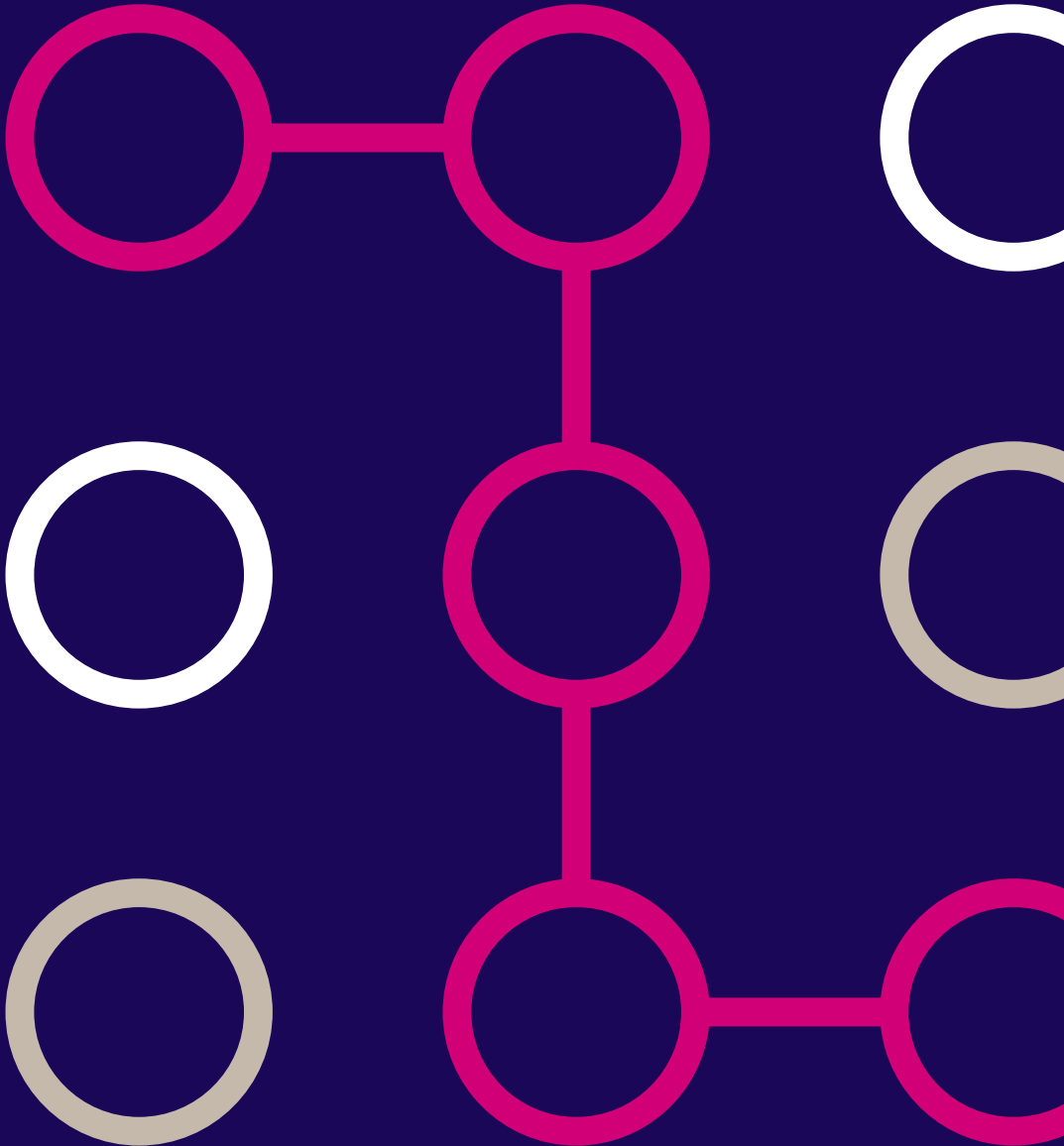


Private Capital Performance Data Guide



Contents

- 3** Reasons to Contribute Data
- 4** Overview of Sourcing, Validating, and Updating Performance Data
- 5** Performance Metrics Definitions
- 6** Calculation Example
- 8** Preqin Benchmarks & Quartile Rankings
- 11** Assets Under Management
- 12** Asset-Level Benchmarks
- 15** Horizon IRRs
- 16** PrEQIn Quarterly Index
- 19** Cash Flow Data
- 20** Public Market Equivalent Indices
- 21** Top Performers
- 22** Risk/Return

Introduction

Preqin was founded in 2003 and pioneered the use of the Freedom of Information Act (FOIA) to collect fund-level returns data from public pension funds with the goal of improving transparency and performance benchmarking within the private capital industry.

FOIA requests remain an important part of Preqin's performance data collection process; however, today these are combined with voluntary data submissions from more than 2,200 fund managers globally. This enables Preqin to offer the most extensive and transparent coverage of net-to-LP private capital fund performance data, with metrics for more than 10,500 vehicles.

The purpose of this document is to act as a useful guide to all aspects of Preqin's private capital performance data collection and validation, as well as insight into the different datasets and metrics available.

Should you have any questions or would like to discuss providing data to Preqin, please do not hesitate to contact us at teamp@preqin.com.

Reasons to Contribute Data



Be seen by investors and decision-makers

- Fundraising? Looking for new investors? Our clients use Preqin Pro for information on potential investment opportunities on a daily basis.
- 7,800+ investment professionals on Preqin Investor Network.
- 20,000-24,000 total logins monthly from institutional investors.



Ensure your data is up to date

- Our dedicated teams of researchers are constantly updating Preqin Pro from known, publicly available sources.
- Review and verify your profiles.
- Make sure we are showing your most up-to-date information.



Shed light on private markets

- Information surrounding the alternative assets industry is difficult to obtain, and not always up to date, accurate, or reliable.
- Help us to collect the most comprehensive and up-to-date intelligence in the alternatives industry.
- Help industry experts to use actual market data to further their own research in this area and make alternatives more transparent.



Stand out from your peers

- By contributing data to Preqin, your firm and funds will be ranked among the thousands of others already listed on the database.
- Feature in our league tables, which are published regularly in our books and reports.
- Preqin will provide personalized images for you to use in your marketing materials to display your rankings.



Contributing is free and simple

- It is free to be listed on Preqin Pro.
- There are many ways of contributing data, making it easy for you to share with us.
- Update and review your profiles as often as you like.

[SHARE DATA](#)

Overview of Sourcing, Validating, and Updating Performance Data

Data sources

Preqin collects performance data from a variety of sources to ensure a high degree of accuracy and confidence. Since 2002, we have collected performance figures from institutional investors, which are obtained via Freedom of Information Act (FOIA) requests. LPs include CalPERS, Washington State Investment Board, and Florida State Board of Administration, among many others both in the US and the UK.

We also collect a substantial proportion of our performance data directly from fund managers, with over 2,200 firms submitting to date. We reach out to regular contributors every quarter to ensure we have the latest fund data available. Fund managers are increasingly recognizing the importance of providing us with accurate and up-to-date data. Preqin subscribers, many of which are institutional investors, use Preqin Pro to search for new investment opportunities and view performance on a fund level. Other sources of data include listed firm financial reports, public filings, and annual reports.

Data validation

To ensure calculations are consistent with our methodologies, we provide guidelines to GPs and FOIA sources when they submit data to us. Our internal Performance Team will then review the data and cross-reference it against a benchmark of similar funds, as well as against other sources reporting for the same fund.

We will reach out to the GP if we require further verification to support the metrics provided. This is usually in the form of relevant pages from an LP report. Although very rare, there have been a handful of instances when we were not confident in the data provided and chose to exclude the data from our database.

The overall process of receiving, validating, and uploading performance data can take up to two weeks. During this period, we are looking to ensure the validity and consistency of the performance data received, thus offering the most accurate and trustworthy information in the market.

Updating performance data

Once collected and validated, all performance data is made available to subscribers via Preqin Pro. We also offer a range of performance-related tools for users to compare, benchmark, and analyze the data. Subscribers use the data for a variety of purposes including benchmarking, competitor analysis, due diligence, and market intelligence.

Compliance

We understand that fund managers are faced with an increasingly intensive regulatory environment. Preqin provides only factual data on Preqin Pro and never makes any explicit or implicit recommendations and/or facilitates transactions of any sort between investors and fund managers.

Preqin is an impartial data provider, and therefore the information displayed on our products does not constitute marketing and/or promotional materials, nor constitute general advertising, solicitation, or a public offer of securities and, as such, is not a regulated activity.

Performance Metrics Definitions

Vintage year

Defined as the first year of investment/drawdown from the investor.

Capital calls/contribution

Measure of the cumulative LP capital invested. This amount should **include management fees**. It is shown as a % of total LP commitment:

$$\text{Capital called (\%)} = \frac{\text{Total LP Contribution}}{\text{Total LP Commitment}} \times 100$$

Note: Capital Called may exceed 100% due to recycling of capital.

Capital distribution (DPI)

The returns that an investor in a fund receives. It is the income and capital realized from investments less expenses and liabilities. This amount should **be net of any carry/performance fees earned by the GP**. It is shown as a % of total LP contribution:

$$\text{DPI (\%)} = \frac{\text{Total LP Distribution}}{\text{Total LP Contribution}} \times 100$$

Fair Value/Market Value (RVPI)

A valuation that represents the amount at which an asset can be acquired or sold in a transaction between willing parties. Also referred to as Ending Market Value, Net Asset Value, or Residual Value. This amount should **be net of any carry/performance fees earned by the GP**. It is shown as a % of total LP contribution:

$$\text{RVPI (\%)} = \frac{\text{Unrealized Value of Fund}}{\text{Total LP Contribution}} \times 100$$

Note: Portfolio valuations should be carried out in accordance with IFRS, GAAP, FAS 157 and/or International Private Equity and Venture Capital (IPEVC) guidelines.

Net multiple

Reveals how many times investors have received, or are likely to receive, their money back and make a profit from their investments. It is the sum of the DPI plus RVPI, expressed as a multiple:

$$\text{Multiple (X)} = \frac{\{\text{DPI (\%)} + \text{RVPI (\%)}\}}{100} = \frac{\text{Dist (\$)} + \text{Value (\$)}}{\text{Called Capital (\%)}}$$

Net internal rate of return (IRR %)

Money-weighted return expressed as a percentage. Net IRR uses the present sum of cash contributed, the sum of distributions, and the current value of unrealized investments and applies a discount. This amount should **be net of any carry/performance fees earned by the GP**.

Estimated IRR

Estimated net internal rate of return (IRR%) – An IRR generated by Preqin using available cashflows. The estimated tag is applied to indicate that this wasn't an IRR directly reported by the performance source but rather calculated by Preqin using the underlying available cash flow data for the fund.

Calculation Example

The following example simulates how to calculate the performance ratio for a fund with the following characteristics:

Total LP Commitment = \$10,000,000
Total Capital Called to Date = \$1,285,000
Total Distribution to Date = \$990,000
Unrealized Fair Value = \$600,000
As of Date: 31-Dec-2016

Called-up ratio

The called-up ratio in this example would be calculated as follows:

Total Capital Called to Date = 1,285,000
Fund Size = 10,000,000

$$\text{Capital called (\%)} = \frac{1,285,000}{10,000,000} \times 100$$

$$\text{Capital called (\%)} = 12.85$$

Distribution to paid-in (DPI %) ratio

The distribution to paid-in ratio in this example would be calculated as follows:

Total Distributions to Date = 990,000
Total Capital Called = 1,285,000

$$\text{Distribution to paid-in (DPI \%)} = \frac{990,000}{1,285,000} \times 100$$

$$\text{Distribution to paid-in (DPI \%)} = 77.04$$

Remaining value to paid-in (RVPI %) ratio

The remaining value to paid-in ratio in this example would be calculated as follows:

Unrealized Fair Value = 600,000
Total Capital Called = 1,285,000

$$\text{Remaining value to paid-in (RVPI \%)} = \frac{600,000}{1,285,000} \times 100$$

$$\text{Remaining value to paid-in (RVPI \%)} = 46.69$$

Calculation Example (continued)

Net IRR (internal rate of return %)

If the transactions for this fund were as follows, the net IRR can be calculated on Excel using the cash flow data:

Transaction type	Transaction date	Transaction amount	IRR formula in Excel = XIRR (transaction amounts, transaction dates)
Capital call	26/01/2012	-100,000	Capital calls: Negative sign
Capital call	05/07/2012	-200,000	
Capital call	30/08/2012	-250,000	
Capital call	17/09/2012	-10,000	Distribution: Positive sign
Capital call	21/03/2013	-10,000	
Capital call	04/04/2013	-150,000	Unrealized fair value: Positive sign
Capital call	22/07/2013	-300,000	
Capital call	23/02/2014	-10,000	
Distribution	03/05/2014	300,000	
Capital call	09/07/2014	-10,000	
Distribution	19/11/2014	200,000	
Capital call	24/12/2014	-10,000	
Capital call	07/02/2015	-50,000	
Distribution	01/03/2015	100,000	
Capital call	12/05/2015	-25,000	
Distribution	27/07/2015	90,000	
Capital call	07/09/2015	-150,000	
Distribution	21/10/2015	100,000	
Distribution	08/03/2016	200,000	
Capital call	16/05/2016	-10,000	
Unrealised fair value	31/12/2016	600,000	

Performance overview

Using the ratios calculated above, the performance ratios for this fund would be as follows:

Fund name	Vintage	Type	Total LP commitment (mn)	Called (%)	Dist (%) DPI	Value (%) RVPI	Net IRR (%)	As of date
Sample fund	2012	Venture capital	10 USD	12.85	77.04	46.69	9.22	31-Dec-16

Preqin Benchmarks & Quartile Rankings

What is it?

Preqin Benchmarks are calculated using performance information for over 10,000 private capital funds – the largest pool of fund returns data available globally. Subscribers to Preqin Pro can view the individual returns for all constituent funds on a named basis, and also access Preqin's custom benchmark tool.

Methodology

Market Benchmark searches can be made based on funds' **vintage**, **investment strategy**, and **geographic focus**. Within each benchmark group, performance metrics of called-up, distributed, unrealized value, multiples, and net IRRs are calculated for the following:

- **Median** – the middle value from an ordered set of a specific benchmark grouping (for each performance metric).
- **Average** – the mean net IRR is taken from a specific benchmark grouping to calculate the average fund performance metrics.
- **Pooled** – accounts for the timings of calls/ distributions; aggregates cash flows of constituent funds and calculates resultant net IRRs.
- **Weighted** – takes the performance ratios of each individual fund and calculates a weighted average using the size of each fund.

Within each benchmark, funds are assigned a **Quartile Ranking** – an easy indicator of how a fund is performing relative to other constituents in the benchmark group. The ranking applies to funds that are included in our 'most up-to-date' range, i.e. have reported data within the past 5 quarters.

Both the multiple and net IRR rankings of each constituent fund are used to determine the fund's overall quartile rank, with equal weighting. If one of the two metrics is unknown, its ranking is estimated based on the known metric's ranking. In instances where the sample size is too small for a specific benchmark group, the fund will be compared to a broader category.

Example

A 2014 vintage Europe-focused growth fund will follow the below expansion routes and be allocated a default benchmark where there are at least eight funds in the benchmark group.

Best case – most granular	→	2014/Europe/Growth
Expand geographic focus	→	2014/All Regions/Growth
Revert to specific region and expand fund type grouping	→	2014/Europe/All Private Equity
Expand geographic focus	→	2014/All Regions/All Private Equity
Revert to specific region and expand fund type grouping	→	2014/Europe/Private Capital
Expand geographic focus	→	2014/All Regions/Private Capital

Buyout funds and real estate funds also take into account fund size grouping and primary strategy, respectively, when assigning benchmark groups.

We also show historical quarterly performance data, which can be searched for using the 'as of date' filter. This allows benchmarks to be evaluated as at different quarters during the funds' lifecycle.

Users also have the option of using the **Custom Benchmarks tool**, which offers a way to create tailor-made peer groups of funds from which benchmark data can then be extracted.

Sources

Prequin receives performance data from GPs, LPs, and listed sources. For a given as of date for a fund, one source is chosen based on consistency, completeness, and timeliness – it is this data that is then used for benchmarks. The chosen historical sources can be viewed for each fund, along with the rest of the sources reporting data for the fund. For some reported data, we are unable to disclose the source.

Users have three options when downloading performance data for a given fund:

- Download all chosen historical data
- Download all data sources for a given as of date
- Download all data for a given source

It is also possible for users to access all historical data from all sources via an API.

Fund Types for Multi-Strategy Benchmarks

Private Capital

All private closed-end funds, including private equity, private debt, private real estate, infrastructure and natural resources.

Private Equity

Balanced, buyout, direct secondaries, growth, private equity fund of funds, private equity secondaries, turnaround, venture capital.

Distressed PE

Distressed debt, special situations, turnaround.

Private Debt

Direct lending, distressed debt, mezzanine, private debt fund of funds, special situations, venture debt.

All - Private Equity (Legacy)

Previously known as All - Private Equity; includes all closed-end funds types with the exception of direct lending funds.

Buyout Fund Sizes

Vintage 1992-1996

Small Buyout ≤ \$200mn

Mid Buyout \$201mn - \$500mn

Large Buyout > \$500mn

Vintage 1997-2004

Small Buyout ≤ \$300mn

Mid Buyout \$301mn - \$750mn

Large Buyout \$751mn - \$2bn

Mega Buyout > \$2bn

Vintage 2005-2022

Small Buyout ≤ \$500mn

Mid Buyout \$501 - \$1.5bn

Large Buyout \$1.5bn - \$4.5bn

Mega Buyout > \$4.5bn

Frequently asked questions

Why do the median DPI and RVPI not always sum to the median multiple?

Each of the metrics – called, DPI, RVPI, net multiple, and net IRR – are calculated independently, so the median is pulled for each of the metrics individually.

Why doesn't the quartile ranking change for a fund when I change the benchmark criteria on a benchmark search?

Quartile rankings are based on a fund's pre-assigned benchmark grouping. Changing the Market or Custom Benchmark search will change all output calculations apart from quartile ranking.

Why does the quartile ranking show as 'n/m' for some funds?

Quartile rankings are not shown for funds within the first three years of their lifecycle, as it is deemed too early for a fund's IRR to be meaningful.

Are the market benchmarks reported in USD?

Performance metrics are calculated in the currency the source has reported in; no conversions are made.

Why are there no median/quartile boundary figures showing for some benchmarks?

At least four funds are required for a median benchmark metric to be calculated.

At least eight funds are required for quartile boundaries to be calculated.

What funds are included in the 'Most Up-to-Date' range?

This range includes all funds that have reported performance data within the past five quarters. This is to maximize the number of constituent funds with a quartile ranking.

The market benchmarks are not suitable for my fund – is there an alternative?

Subscribers have the option of using the Custom Benchmarks tool, which offers a way to create tailor-made peer groups of funds from which benchmark data can then be extracted.

Given data contributions from GPs, is there a risk of survivorship bias in the data, i.e. bias toward best performing funds?

For over 80% of funds for which we have performance data, we have either an LP source or both an LP and GP source reporting data. Additionally, we have an average of four sources reporting data for each fund. This range of available data enables Prequin to compare data contributions from GPs against other sources reporting for the same fund, ensuring the validity and consistency of the performance data received.

Assets Under Management

What is it?

Assets Under Management (AUM) is used as a measure of the size or growth of the industry. It is the sum of both dry powder and unrealized value:

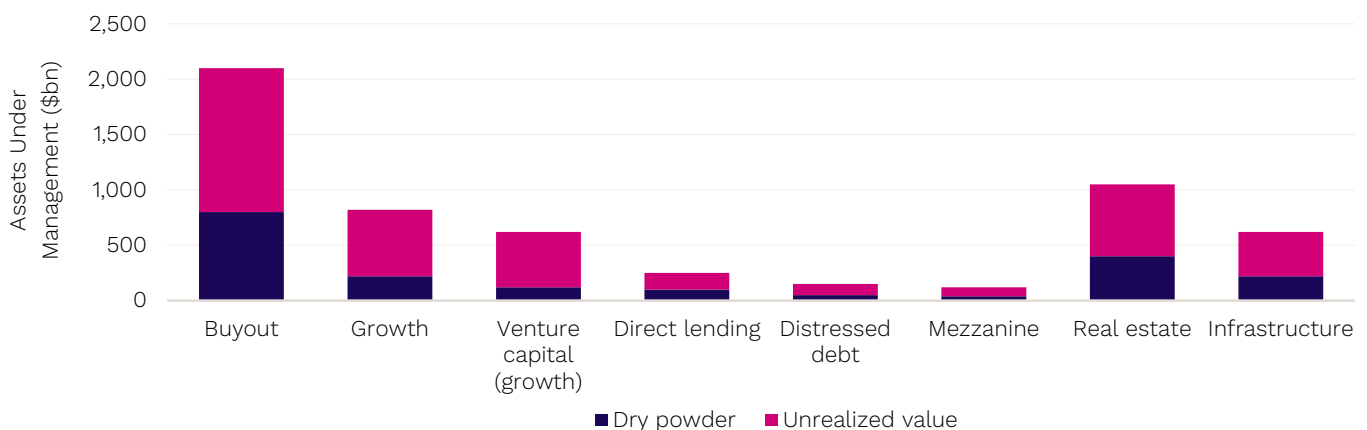
- **Dry powder:** Available capital to fund managers for investment, i.e. committed capital that has not yet been called for investment.
- **Unrealized value:** Value of unrealized portfolio investments.

Methodology

The AUM for a given fund is calculated as follows:

- **Dry powder:** The capital called amount is subtracted from the fund's size/latest close size. If the Called % metric is not reported for a given fund, a benchmark Called % is used instead.
- **Unrealized value:** The RVPI % metric is multiplied with the amount of capital called. If the RVPI % metric is not reported for a given fund, a benchmark RVPI % is used instead.

Private capital: Assets Under Management by Strategy



Source: Preqin Pro. Data as of September 2019

Frequently asked questions

What currency are the AUM figures reported in?

AUM is reported in USD. For funds denominated in non-USD currencies, conversions to USD are made using the exchange rate at the date of the final close or latest interim close of the fund.

When does the latest quarter-end date get updated?

As with the rest of the performance tools, there is a lag of at least six months for the latest quarter-end date to become available. This is to ensure we use as complete a dataset as possible when estimating the latest AUM figures.

How are annual called and distributed figures calculated?

These are calculated using the same dataset as AUM. Called % and DPI % metrics are used to calculate the annual called and distributed figures respectively. In the absence of these reported metrics, benchmark metrics are used instead.

Asset-Level Benchmarks

Deal Performance Benchmarks

Description of Deal Performance Benchmarks

Preqin Deal Performance Benchmarks are calculated using cashflow data from GP quarterly reporting of private capital funds' deals to LPs. Subscribers to Asset-Level Benchmarks can view anonymized benchmarks that provide performance metrics such as TVPI, IRR, and Loss Ratios, broken down by asset class, strategy, geography, industry classification, deal vintage, and deal size range.

Deal Performance Benchmarks Methodology

Preqin calculates Deal Performance Benchmarks from deal-level transaction data to attribute TVPI, RVPI, DPI, and IRRs to each deal. Those values are then aggregated into respective anonymized benchmarks based on the possible filtering combinations in the tool.

- Deal transaction data is sourced from Colmore's collection of GP quarterly reporting to LPs.
- Due to the sensitive nature of GP quarterly reports, data is aggregated & anonymized in the benchmarks.
- Quarterly data update timeliness.

Definitions of performance metrics for Deal Performance Benchmarks

Gross DPI (distributed to paid in)	The ratio of money distributed by the portfolio company, relative to Investments. Excludes fees. $\frac{(Cum. Proceeds + Cum. Income)}{Cum. Investments} = DPI$
Gross IRR (internal rate of return)	Money-weighted return expressed as a percentage. Uses the present sum of Investments, the sum of Distributions, and the current unrealized value of a portfolio company and applies discount. Excludes fees. $\sum_{n=0}^N \frac{Cashflow_n}{(1+IRR)^n} = NPV = 0$
Gross RVPI (residual value to paid in)	The ratio of the current value of remaining Investments within a portfolio company to the total contributions into the portfolio company to date. Excludes fees. $\frac{(Cum. Adjusted Valuation)}{Cum. Investments} = RVPI$
Gross TVPI (total value to paid in)	The ratio of the current value of remaining Investments in a portfolio company, plus the total value of all Distributions to date, relative to the total amount of capital paid into the company to date. Excludes fees.
Weighted average	An average calculated by weighing the constituents' deal size, effectively meaning that large deals have more impact on the metric than small deals.
Pooled IRR	Calculated by combining multiple deals' cash flows and calculating as if they were a single deal.
Loss ratios	By Number of Deals: $\frac{Count\ of\ Constituents\ Deals\ TVPI < 1}{Count\ of\ all\ Constituents\ Deals} \times 100$ By Invested Capital (in \$): $\frac{(1-TVPI) * Cumulative\ Investment\ (of\ constituent\ deals\ TVPI < 1)}{Sum\ of\ Cumulative\ Investment\ (of\ all\ constituents)} \times 100$

Valuation Multiples Benchmarks

Description of Valuation Multiples Benchmarks

Preqin Valuation Multiples Benchmarks are calculated using funds' portfolio company operating metrics reported by GPs to LPs. Subscribers to Asset-Level Benchmarks can view anonymized benchmarks that provide both entry and exit multiples, such as EV / EBITDA, EV / Revenue, and Net Debt / EBITDA, broken down by asset class, strategy, deal year, geography, industry classification, and EV range.

Valuation Multiples Benchmarks Methodology

Preqin calculates Valuation Multiple Benchmarks from operating metrics data at entry and exit to attribute multiples to portfolio companies. Those values are then aggregated into respective anonymized benchmarks based on the possible filtering combinations in the tool.

- Operating metrics data is sourced from Colmore's collection of GP quarterly reporting to LPs.
- Due to the sensitive nature of GP quarterly reports, data is aggregated & anonymized in the benchmarks.
- Quarterly data update timeliness

Definitions of data points for Valuation Multiples Benchmarks

Region/country	A Portfolio Company's headquarters region and/or country
Weighted average	An average calculated by weighting the constituents' EV size, effectively meaning that large companies have more impact on the metric than small companies.
Entry EBITDA	Portfolio Company earnings before interest, tax, depreciation, and amortization when the fund invested, as reported by the GP.
Entry net debt	Net debt (long- and short-term debt minus cash and cash equivalents) of a Portfolio Company when the fund invested, as reported by the GP.
Entry revenue	Revenue of a Portfolio Company when the fund invested, as reported by the GP.
Entry EV	Enterprise value (Equity Value + Net Debt) of the Portfolio Company when the fund invested, as reported by the GP.
Constituents	Number of deals within one benchmark.
Cumulative EV (\$bn)	Cumulative Enterprise Value of Portfolio Companies within one benchmark.

Calculations

Entry EV/EBITDA Enterprise multiple, also known as the EV-to-EBITDA multiple, is a ratio used to determine the value of a company.

$$\frac{\text{Entry EV}}{\text{Entry EBITDA}}$$

Entry EV/revenue Enterprise multiple, also known as the EV-to-Revenue multiple, is a ratio used to determine the value of a company. Used to give another perspective from EV/EBITDA, especially for non-profit generating companies.

$$\frac{\text{Entry EV}}{\text{Entry Revenue}}$$

Entry net debt/EBITDA The net debt-to-EBITDA ratio is a debt ratio that shows how many years it would take for a company to pay back its debt if net debt and EBITDA are held constant.

Exit The ratio of the current value of remaining Investments in a portfolio company, plus the total value of all Distributions to date, relative to the total amount of capital paid into the company to date. Excludes fees.

Horizon IRRs

What are they?

Horizon IRRs indicate how a particular fund strategy or geographic focus has performed over a defined period. Prequin calculates horizon IRRs over one, three, five, and 10 years to date, as well as rolling IRRs.

Private capital horizon IRRs should be viewed with some caution as horizon returns are calculated using cash transactions as well as portfolio valuations, which are an estimated value calculated and provided by the GPs. As an illiquid asset, private capital investors are committed for a long period of time and cannot cash in their returns on such short periods.

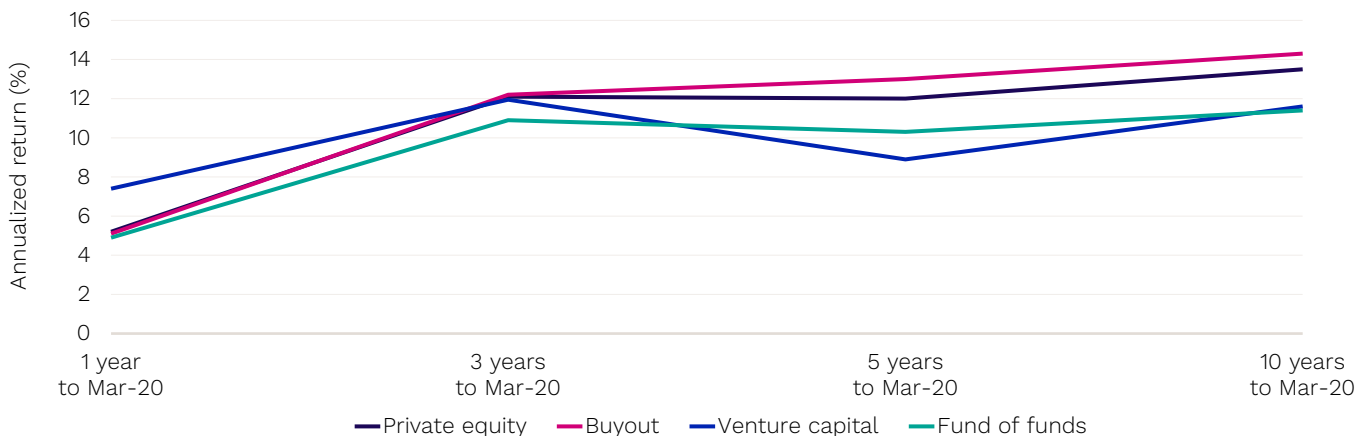
Methodology

Prequin calculates horizon IRRs using cash flow data for over 5,000 private capital funds. For a fund to be included in the sample for a given time horizon, it must be active at the start and the end of the period, i.e. have an unrealized value reported at both start and end dates. The IRRs are calculated using:

- The fund's net asset value (NAV) at the start of the period as a negative outflow.
- LP contributions as a negative outflow (treated as the initial investment).
- Distributions as a positive inflow.
- The fund's NAV at the end of the period as a positive number.

The horizon IRRs are capital weighted, i.e. larger funds have more of an impact on the overall calculation.

Private equity horizon IRRs by fund type



Source: Prequin Pro. Data as of 31 March 2020

Frequently asked questions

When does the latest quarter-end date get updated?

Like the rest of the performance tools, there is a lag of at least six months for the latest quarter-end date to become available. This is to ensure we use as complete a dataset as possible when calculating the latest horizon IRRs.

Can horizon IRRs be calculated for fund categories or regions not already showing on the product?

Yes, if the fund sample size is large enough to produce a meaningful result.

PrEQIn Quarterly Index

What is it?

The PrEQIn Private Capital Quarterly Index captures in an index the return earned by investors on average in their private capital portfolios, based on the actual amount of money invested in private capital partnerships.

Methodology

$$\% \text{ Change in quarter} = \frac{\text{NAV at end of Quarter} + \text{Distributions during Quarter}}{\text{NAV at start of Quarter} + \text{Called during Quarter}} - 1$$

NAV	Net asset value in USD.
Called during quarter	Total capital drawn by fund managers in USD during the quarter, meaning the cumulative cash called to date as of the end of the quarter minus the cumulative cash called to date as of the start of the quarter.
Distributions during quarter	Total capital distributed to LPs in USD during the quarter, meaning the cumulative cash distributed to date as of the end of the quarter minus the cumulative cash distributed to date as of the start of the quarter.

Each data point is individually calculated from the pool of closed-end funds for which comprehensive performance data is held, as of both the start and end of the quarter.

Historical data points are not recalculated as time passes, except for the latest two-quarters available, which are preliminary. The preliminary quarters are finalized at a 3-quarter lag coinciding with the full constituency for the as-at date being met. The universe of funds for each quarterly point in the index may change over time depending on data availability.

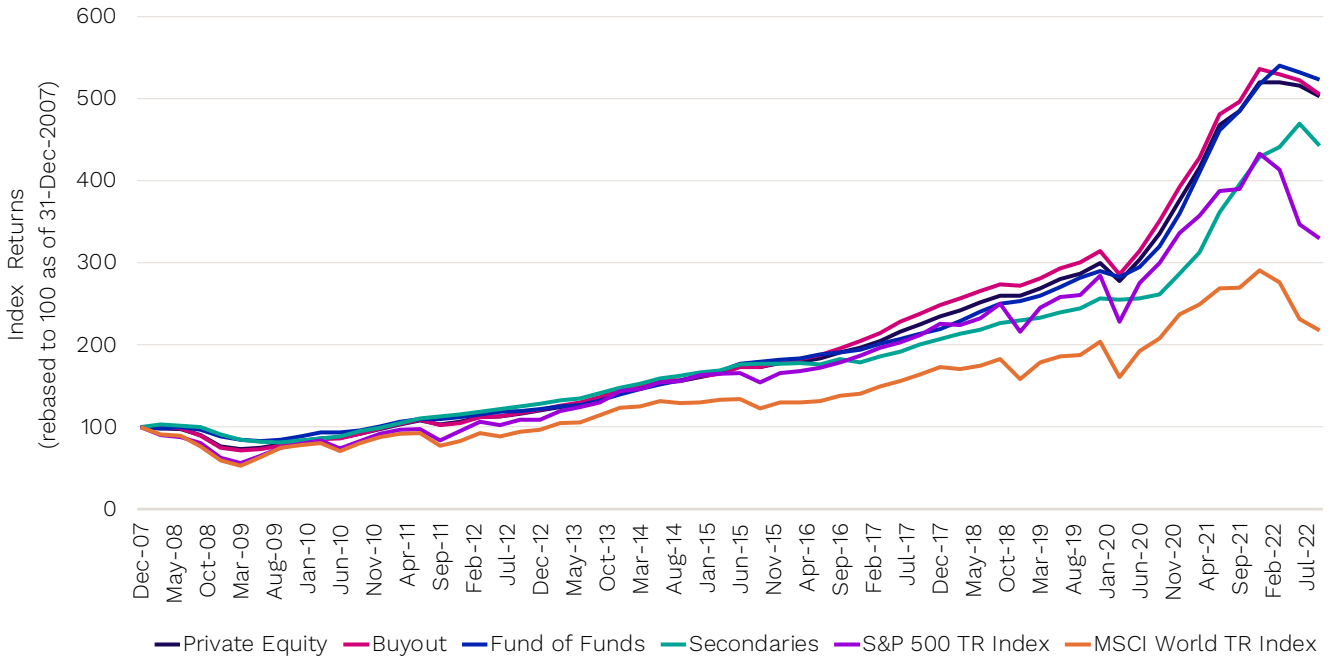
Index components

Index	Strategies included
Private capital	All infrastructure, natural resources, private debt, private equity, real estate, and venture capital strategies
Private capital – North America	Primary region focus = North America
Private capital – Europe	Primary region focus = Europe
Private capital – Asia	Primary region focus = Asia
Private capital – separate accounts	Fund structure = separate account
Private capital – first-time funds	First overall fund of a fund manager in an asset class
Private equity	Balanced, buyout, co-investment, co-investment multi-manager, direct secondaries, early stage, early stage: seed, early stage: start-up, expansion/late stage, fund of funds (PE), growth, secondaries (PE), turnaround, venture (general)
Private equity excl. VC	Balanced, buyout, co-investment, co-investment multi-manager, direct secondaries, Fund of funds (PE), growth, secondaries (PE), turnaround
Distressed PE	Distressed debt, turnaround, special situations
Buyout	Buyout
Growth	Growth
Fund of funds	Fund of funds (PE)
Buyout – mega, large, mid, small	Vintage 1992-1996: small ≤ \$200mn, mid \$201-\$500mn, large >\$500mn Vintage 1997-2004: small ≤\$300mn, mid \$301 – 750mn, large \$751-\$2bn, mega > \$2bn Vintage 2005-present: small ≤\$500mn, mid \$501-\$1.5bn, large \$751-\$4.5bn, mega >\$4.5bn
Secondaries	Secondaries (PE)
Venture capital	Early stage, early stage: seed, early stage: start-up, expansion/late stage, venture (general)
Venture – all stage	Venture (general)
Venture – early stage	Early stage, early stage: seed, early stage: start-up
Venture – expansion	Expansion/late stage
Private debt	Direct lending, distressed debt, mezzanine, private debt fund of funds, special situations, venture debt
Private debt – mezzanine	Mezzanine
Private debt – distressed debt	Distressed debt
Real estate	Real estate co-investment, real estate core, real estate core-plus, real estate debt, real estate distressed, real estate fund of funds, real estate opportunistic, real estate secondaries, real estate value added
Real estate – opportunistic	Real estate opportunistic
Real estate – value added	Real estate value added
Real estate – debt	Real estate debt
Infrastructure	Infrastructure core, infrastructure core-plus, infrastructure debt, infrastructure fund of funds, infrastructure opportunistic, infrastructure secondaries, infrastructure value added
Natural resources	Natural Resources, timberland

Custom indices

Preqin can produce custom indices even more granular than those offered on Preqin Pro, following the same methodology as detailed above. Users can obtain custom indices via Client Services and request specifications on blends or exclusions of funds based on Preqin filter criteria, subject to data availability.

PrEQIn index - all strategies (rebased to 100 as of 31 December 2007)



Source: Preqin Pro. Data as of 31 January 2023

Cash Flow Data

What is it?

Preqin's Private Capital Cash Flow data is the industry's largest source of reliable cash flow data, allowing users to undertake extensive financial modeling and gain a complete understanding of how private capital fund returns evolve over time. The data consists of 280,000 historical data points for over 5,000 private capital funds of all types, including over 140,000 cash flow transactions and over 150,000 historical NAVs.

This dataset is made up of fund-level cash flow transactions – **capital calls, distributions, and valuations**.

- **Capital calls:** Capital called up by the GP from LPs for investment.
- **Valuations:** The estimated NAV of the fund portfolio.
- **Distribution:** Capital returned to investors from the GP.

Methodology

Cash flow data is gathered from aggregated data – typically, reliable FOIA sources are used, but on occasion data is included directly from consistent-reporting GPs.

For most funds, data tends to derive from a single source that has been reporting in quarterly metrics for the fund from inception. Quarterly cash flow amounts can then be calculated from this data using the mid-point of the quarter and normalizing each fund to a commitment of 10mn in the fund's denominated currency.

Frequently asked questions

What process is in place to reduce errors?

The cash flow calculation process is automatic based upon the quarterly performance metrics shown on Preqin Pro. Each time data is imported into this database, several quality checks are carried out to check the data from all sources for each fund – these are cross-checked against each other, as well as against historical data, to identify and remove/correct any reporting errors.

What do positive call amounts mean?

As most cash flow data is calculated from reported data, there can be instances where positive called amounts are broken out – these can be attributed to the different ways in which sources report transactions such as recallable distributions, fees, returns of capital, etc.

Why doesn't the Cumulative Contribution column eventually add up to the Total Fund Size?

We present the cash flow data from the perspective of a hypothetical investor with a 10mn commitment to each fund in the fund's denominated currency. We include a column with the fund size where known so that the data can be capital weighted where necessary.

Where can this data be found?

This data is made available to view/download directly via the Cash Flow module, and shows on relevant fund pages – accompanying a chart showing cumulative contribution, distribution, and net cash flow data based upon the underlying cash flow data.

Public Market Equivalent Indices

What are they?

Typically, private capital returns are not directly comparable with public market indices, due to the illiquid nature and irregular timing of cash flows for private capital assets. The development of the public market equivalent (PME) measure of returns, however, provides a more meaningful, like-for-like comparison. PME metrics benchmark the performance of a fund, or a group of funds, against an appropriate public market index while accounting for the timing of fund cash flows. To ensure we offer meaningful values based on a significant dataset, the latest PME values are limited to a six-month lag.

Benchmark methodology	Metric	Private capital outperformance if:	Description of calculation	Strengths	Weaknesses
KS PME (Kaplan-Schoar)	Ratio	Value > 1	<p>Calculated by discounting the private capital fund cash flows by the public market index value.</p> <p>The discounted distributions plus the current remaining value are divided by the discounted contributions to obtain the ratio.</p>	<p>The calculation looks at the ratio of outflows vs. inflows as opposed to generating an IRR, which is time dependent and easily manipulated.</p> <p>Easy to interpret.</p>	<p>Ignores the timings of cash flows.</p>
LN PME (Long-Nickels)	Annualized Rate	Estimated PME IRR < Private Capital Fund IRR	<p>Contributions to the private capital fund are converted to an equal purchase of shares in the public index. Distributions represent liquidation of share in public index.</p> <p>IRR calculation uses the same contributions and distributions as the private capital fund, but with a different final period remaining value.</p>	<p>LN PME IRR is directly comparable to the PE Fund IRR, allowing an apples-to-apples comparison.</p>	<p>IRR sensitive to early distributions. Large distributions could cause a negative PME final period remaining value, making PME IRR calculation computationally impossible.</p>
Capital Dynamics PME+	Annualized Rate	Estimated PME IRR < Private Capital Fund IRR	<p>Uses a fixed scaling factor (lambda) to modify each distribution to ensure the PME final period remaining value is the same as the private capital fund remaining value. IRR calculation uses modified contributions and distributions but with the same final period remaining value.</p>	<p>As for LN PME, with the added benefit of avoiding a final period negative remaining value, making PME IRR calculation possible in more cases.</p>	<p>PME+ does not match the cash flows perfectly.</p>
Direct Alpha	Annualized Rate of Excess Return	Direct Alpha > 0	<p>Calculated by discounting the private capital fund cash flows by the public market index value. IRR calculation uses the discounted values to obtain the annualized rate of excess return.</p>	<p>Calculates the exact rate of return of outperformance, rather than an indirect estimate.</p>	<p>N/A</p>

Methodology

The PME tool enables the comparison of private capital returns against seven public market indices using a choice of four PME methodologies: Kaplan- Schoar PME, Long-Nickels PME, PME+, and Direct Alpha. All the methodologies utilize the since-inception cash flow data Preqin holds for over 5,000 funds. The table on the previous page outlines the calculations involved in each of the four PME methodologies offered, and their advantages and disadvantages:

Frequently asked questions

When does the latest quarter-end date get updated?

PMEs get updated at a 3 months lag to the latest quarter. This is to ensure we have a sufficient dataset when calculating the latest PME values for benchmarks.

Which public market index should I compare against?

It is important to note that we use total return market indices as these re-invest dividends back into the index, in the same way an investor would redirect its distributions from private equity funds into other investments.

Below are suggestions of which indices to use with which fund types/regions:

- S&P 500 (primarily used for large-cap US stocks) → All Private Equity, Buyout
- Russell 2000 (widely used for small-mid cap) → Venture Capital
- Russell 3000 (largest 3000 US stocks) → Buyout, Distressed Private Equity, Fund of Funds
- MSCI Europe → Europe-focused PE funds
- MSCI Emerging Markets → Emerging markets- focused private equity funds
- MSCI US REIT → Real Estate
- MSCI World → All

Top Performers

What is it?

Most consistent top performing managers: Ranking fund managers by the average quartile ranking of their funds.

Top performing funds: Ranking individual funds by their Internal Rate of Return (IRR).

Methodology

Most consistent top performing managers: Preqin generates quartile rankings for individual funds according to their investment strategy, geographic focus, and vintage year. Each fund universe constitutes funds of similar types, geographic foci, and vintage years, enabling quartile rankings to be assigned using a combination of both the net IRR and multiple rankings of each constituent fund – with equal weights placed on both. In instances where the sample size is small, the funds are assigned quartile rankings that are generated against the private capital industry in its entirety.

The tables are compiled using only funds for which Preqin assigns a quartile ranking, and so for this reason, funds within the first three years of their lifecycle have been excluded as these funds are too early in their fund lives to generate meaningful IRRs. Furthermore, only managers that have raised at least three funds of a similar strategy are considered and further narrowed down to include only active fund managers (whereby the fund manager must have raised a similar strategy fund within the past six years). The lower the average score, the more consistently the manager has performed.

The average rank is calculated by assigning top-quartile funds with a weighting of 1, second-quartile funds with a weighting of 2 and so on – and then an average of the scores is taken. Only firms with average quartile rankings of below 2.00 are considered.

Top performing funds: To determine the best performing funds by fund type, Preqin has grouped together funds of similar vintage years and geographic foci where available. Preqin only includes funds that have called up at least 50% of committed capital and the net IRR is used as the key determinant of performance.

$$\text{Average rank} = \frac{(\# \text{No. Q1 funds} * 1) + (\# \text{No. Q2 funds} * 2) + (\# \text{No. Q3 funds} * 3) + (\# \text{No. Q4 funds} * 4)}{\text{Total number of funds with a Quartile Ranking}}$$

Risk/Return

What is it?

Enable users to visually compare the risk/return profiles of single- and multi-year benchmarks in an intuitive format. Return is measured by the benchmarks' median Net IRR, while the risk is measured by the standard deviation of Net IRR. Bubble size indicates the total market capitalization (total capital raised) by each benchmark's constituent funds.

How to read the chart:

- Further the right = higher returns
- Further to the top = higher risk
- Bigger bubble = more capital raised

Methodology

Single-year benchmarks:

What are single year benchmarks?

These benchmarks look to compare funds that share a single vintage year, e.g. Buyout - North America – 2010.

- **Return:** median Net IRR of constituent funds
- **Risk:** standard deviation of Net IRR of constituent funds
- **Market capitalization (bubble size):** sum of total capital raised by constituent funds

Multi-year benchmarks:

What are multi year benchmarks?

These benchmarks look to compare funds within a range of vintage years, e.g. Buyout - North America – 2010-2015.

- **Return:** median Net IRR of all constituent funds within selected parameters (taken as a single group)
- **Risk:** standard deviation of all constituent funds within selected parameters (taken as a single group)
- **Market capitalization (bubble size):** sum of total capital raised by all constituent funds within selected parameters

Frequently asked questions

Why can't I see certain benchmarks in the filter results?

Not all benchmarks will have sufficient IRR data points necessary to be compared on the chart. For benchmarks that are less than 3 years out from their vintage year, IRR data is hidden; therefore, these benchmarks cannot be plotted on the chart.

The terms "Market Capitalization" and "Constituent Fund Size" are synonyms – they both refer to the total capital raised of the selected benchmark (and are displayed as the bubble size on the chart).

