

Q4 2015 Private Equity Performance Update

Fig. 1: All Private Equity* Horizon IRRs (As of 31 December 2015)



Fig. 3: All Private Equity* Rolling Three-Year Horizon IRRs







Fig. 2: All Private Equity* Rolling One-Year Horizon IRRs



Source: Preqin Private Equity Online

Fig. 4: Buyout Fund Horizon IRRs by Size** (As of 31 December 2015)



Source: Preqin Private Equity Online

Data Source:

Preqin's **Private Equity Online** is the industry's most extensive source of net-to-LP private equity fund performance, with full metrics for over 8,110 named vehicles.

For more information, please visit:

www.preqin.com/peo

*All Private Equity encompasses all closed-end private capital strategies with the exception of Direct Lending. **Size ranges:

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 2005-2016: Small Buyout ≤ \$500mn, Mid Buyout \$501mn-\$1,500mn, Large Buyout \$1,501mn-\$4.5bn, Mega Buyout > \$4.5bn





Fig. 8: Quarterly Change in NAV by Buyout Fund Size**



Fig. 10: All Private Equity* Median Net IRRs by Fund Type (As of 31 December 2015)



Source: Pregin Private Equity Online

Investment Year

Q

10

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Vintage 1992-1996: Small Buyout ≤ \$200mn, Mid Buyout \$201mn-\$500mn, Large Buyout > \$500mn

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Vintage 2005-2016: Small Buyout ≤ \$500mn, Mid Buyout \$501mn-\$1,500mn, Large Buyout \$1,501mn-\$4.5bn, Mega Buyout > \$4.5bn

Fig. 7: Quarterly Change in NAV by Fund Type (Non-Weighted)



Fig. 9: Change in NAVPS and Share Price of Listed Private Equity by Quarter



Source: Preqin Private Equity Online

-Vintage 2005

-Vintage 2006

-Vintage 2007

Vintage 2008

-Vintage 2009

-Vintage 2010

-Vintage 2011

-Vintage 2012



5

6

.3

7 8

20%

15%

10%

5%

0%

-5%

-10%

-15%

-20%

-25%

0

Median Net IRR

Source: Preqin Private Equity Online



Fig. 12: PrEQIn Quarterly Index: All Strategies



*All Private Equity encompasses all closed-end private capital strategies with the exception of Direct Lending.

PrEQIn - Private Equity Quarterly Index

PrEQIn is the first quarterly index for the whole private equity industry, and a vital tool for investors seeking to compare the performance of private equity portfolios to those of other asset classes.

For free access to the Index, register for Research Center Premium by visiting:

www.preqin.com/rcp

Fig. 13: Consistent Top Performing Buyout Fund Managers

Firm	Headquarters	Total Funds Raised in Last 10 Years (\$mn)	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Overall No. of Funds with Quartile Ranking	Average Quartile Rank
Odyssey Investment Partners	US	3,500	3	0	3	1.00
Altor	Sweden	6,688	3	0	3	1.00
Inflexion	UK	3,601	4	0	4	1.00
Clearview Capital	US	575	3	0	3	1.00
Auctus Management	Germany	613	3	0	3	1.00
Lone Star Investment Advisors	US	295	3	0	3	1.00
FIMI	Israel	2,427	4	1	5	1.20
Waterland	Netherlands	5,081	4	1	5	1.20
Veritas Capital	US	3,629	3	1	4	1.25
Wynnchurch Capital Partners	US	1,840	2	1	3	1.33
Harvest Partners	US	2,051	2	1	3	1.33
Industrial Growth Partners	US	1,800	2	1	3	1.33
Harwood Private Equity	UK	353	2	1	3	1.33
Avista Capital Partners	US	5,200	2	1	3	1.33
DFW Capital	US	577	2	1	3	1.33
Crescent Capital Partners	Australia	1,384	2	1	3	1.33
Vista Equity Partners	US	18,011	4	0	5	1.40
Quadrant Private Equity	Australia	2,667	4	0	5	1.40
American Securities	US	10,961	3	2	5	1.40
Pacific Equity Partners	Australia	6,138	4	0	5	1.40

Source: Preqin Private Equity Online



Fig. 14: Consistent Top Performing Venture Capital Fund Managers

Firm	Headquarters	Total Funds Raised in Last 10 Years (\$mn)	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Overall No. of Funds with Quartile Ranking	Average Quartile Rank
Benchmark Capital	US	1,497	3	0	3	1.00
Pittsford Ventures Management	US	200	6	0	6	1.00
OrbiMed Advisors	US	5,298	4	0	4	1.00
Columbia Capital	US	1,188	4	2	6	1.33
Brentwood Venture Capital	US		4	2	6	1.33
Helmet Venture Managers	Finland	12	2	1	3	1.33
Partech Partners	France	1,201	2	1	3	1.33
AJU IB Investment	South Korea	545	2	1	3	1.33
Bain Capital Ventures	US	3,166	3	2	5	1.40
Matrix Partners	US	4,017	3	2	5	1.40
Battery Ventures	US	3,575	6	3	10	1.50
Lightspeed Venture Partners	US	5,044	3	0	4	1.50
Vickers Venture Partners	Singapore	240	3	0	4	1.50
Kleiner Perkins Caufield & Byers	US	7,940	3	3	6	1.50
TA Associates	US	16,300	4	2	7	1.57
CDH Investments	Hong Kong	8,708	3	1	5	1.60
Adams Street Partners	US	21,391	4	7	11	1.64
Alta Partners	US	500	1	2	3	1.67
Prime Ventures	Netherlands	430	2	0	3	1.67
Goodwell Investments	Netherlands	118	1	2	3	1.67

Source: Preqin Private Equity Online

Fig. 15: Consistent Top Performing Growth Fund Managers

Firm	Headquarters	Total Funds Raised in Last 10 Years (\$mn)	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Overall No. of Funds with Quartile Ranking	Average Quartile Rank
Trustbridge Partners	China	3,140	3	0	3	1.00
Ampersand Capital Partners	US	390	3	2	5	1.40
Enfoca Inversiones	Peru	574	3	1	5	1.60
Tribeca Asset Management	Colombia	412	1	2	3	1.67
Technology Crossover Ventures	US	7,747	1	3	4	1.75
Clairvest Group Canada		1,278	1	3	4	1.75
Excelsior Capital Asia	Hong Kong	290	2	1	4	1.75

Source: Preqin Private Equity Online

Target Top Performing Fund Managers

Preqin's **Private Equity Online** can be used to identify consistently top performing private equity fund managers, using Preqin's quartile ranking system.

Consistent performing firms can be broken down by geographical fund focus and strategy.

For more information, or to arrange a demonstration, please visit:

www.preqin.com/peo



Fig. 16: Consistent Top Performing Private Equity Fund of Funds Managers

Firm	Headquarters	Total Funds Raised in Last 10 Years (\$mn)	No. of Funds in Top Quartile	No. of Funds in Second Quartile	Overall No. of Funds with Quartile Ranking	Average Quartile Rank
Nord Holding	Germany	703	3	0	3	1.00
Industry Ventures	US	2,987	5	0	5	1.00
Weathergage Capital	US	518	4	0	4	1.00
Greenspring Associates	US	2,549	4	1	5	1.20
HQ Capital International	US	2,625	3	1	4	1.25
TrueBridge Capital Partners	US	1,460	3	1	4	1.25
ATP Private Equity Partners	Denmark	5,691	3	1	4	1.25
Nordea Private Equity	Denmark	636	2	1	3	1.33
Akina	Switzerland	2,065	2	3	5	1.60
Stafford	UK	1,609	2	0	3	1.67
Axiom Asia Private Capital	Singapore	2,931	1	2	3	1.67
Ke Nako Capital	South Africa	189	2	0	3	1.67
Gerber/Taylor Management	US	445	4	2	7	1.71
Asia Alternatives Management	Hong Kong	3,924	10	1	15	1.73
Spur Capital Partners	US	387	3	0	4	1.75
LGT Capital Partners	Switzerland	12,555	4	7	13	1.85
North Sky Capital	US	436	4	1	7	1.86
Franklin Park	US	113	6	0	9	1.89

Source: Preqin Private Equity Online

Source new investors for funds

- **Identify** new investment opportunities
- **Conduct** competitor and market analysis

Find potential deal opportunities

Develop new business

Find out how Preqin's Private Equity Online can help your business:



www.preqin.com/privateequity



The Importance of PME Benchmarking

Investors and fund managers alike frequently benchmark private equity* returns against public markets in order to gauge the relative performance of their investments. For LPs, it is an important exercise undertaken to inform portfolio construction decisions and to evaluate the performance of one asset class against that of another. For fund managers, it forms a key aspect of fund marketing to help secure LP commitments.

Private equity returns, however, are not directly comparable with public market indices, due to the asset class's illiquid nature and irregular timing of cash flows. The industry has long used the analogy of 'comparing apples with oranges' when discussing the difficulties of evaluating the differences between private equity and public market performance. The development of the **public market equivalent** (PME) measure of returns 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 timings of the fund cash flows. When PME values are generated for many funds, they can be used as an alternative measure of ranking fund performance, while controlling for broader market behaviour.

Preqin provides PME benchmarks and individual fund-level PME comparisons on its online databases, which already provide net-to-LP fund performance metrics for over 8,200 named private equity vehicles globally. The PME tool enables the comparison of private equity returns against six public market indices using a choice of three PME methodologies: Kaplan-Schoar PME, Long-Nickels PME and PME+. All of the methodologies utilize the since-inception cash flow data Preqin holds for over 3.200 funds.

The table below provides an overview of the three PME methodologies Preqin now offers, along with their specific strengths and weaknesses. In this book, we also include the PERACS Alpha benchmark, a measure of the annualized rate of excess return/loss when comparing private equity returns to the MSCI World index. Having the ability to employ a number of different PME methodologies is highly desirable to an investor, but it is important to also maintain awareness that each is fundamentally an approximation until the funds are fully realized.

Methodology	Metric	Private Equity Outperformance if:	Description of Calculation	Strengths	Weaknesses
KS PME (Kaplan- Schoar)	Ratio	Value > 1	Calculated by discounting the private equity fund cash flows by the public market index value. The discounted distributions plus the current remaining value are divided by the discounted contributions to obtain the ratio.	The calculation looks at the ratio of outflows versus inflows as opposed to generating an IRR, which is time- dependent and is easily manipulated. Easy to interpret.	Ignores the timings of cash flows.
LN PME (Long-Nickels)	Annualized Rate	Estimated PME IRR < PE Fund IRR	Contributions to PE fund are converted to an equal purchase of shares in the public index. Distributions represent liquidation of share in public index. IRR calculation uses same contributions and distributions as PE fund, but with a different final period remaining value.	LN PME IRR is directly comparable to the PE Fund IRR, allowing an apples-to-apples comparison.	IRR sensitive to early distributions. Large distributions could cause a negative PME final period remaining value, making PME IRR calculation computationally impossible.
PME+	Annualized Rate	Estimated PME IRR < PE Fund IRR	Uses a fixed scaling factor (lambda) to modify each distribution to ensure the PME final period remaining value is the same as the PE fund remaining value. IRR calculation uses modified contributions and distributions but same final period remaining value.	As for LN PME, with the added benefit of avoiding a final period negative remaining value, making PME IRR calculation possible in more cases.	PME+ does not match the cash flows perfectly.
PERACS Alpha (Gottschalg)	Annualized Rate of Excess Return	Value > 0	Calculated by discounting private equity fund cash flows by MSCI ACWI Index. Discounted distributions plus current remaining value are divided by discounted contributions, and the corresponding ration is annualized based on the duration of cash flows, i.e. the time period between (a) capital-weighted average date of all takedowns and (b) capital weighted average date of all distributions and remaining NAV.	Considers time value of money using duration which avoids potential distortions due to high early redemptions.	No consideration of differences in risk.

*Defined as closed-end Private Capital excluding Direct Lending.



Kaplan-Schoar Public Market Equivalent - KS PME

- Kaplan-Schoar (KS) PME can be used to compare against a range of public indices, including the S&P 500 Total Return Index and MSCI Europe TR.
- Fig. 17 shows that private equity* funds in all regions with vintage years 2000-2005 saw strong outperformance compared with S&P 500 shares over the same period to 31 December 2015.
- North America-focused private equity funds have seen a similar pattern, with older vintages generating stronger outperformance compared to an investment in the S&P 500 TR Index; the same can be seen for vintages 2009-2014 (Fig. 18).

Fig. 17: KS PME: All Private Equity* - All Regions (As of 31 December 2015)



Source: Preqin Private Equity Online

Fig. 19: KS PME: All Private Equity* - Europe (As of 31 December 2015)



Source: Pregin Private Equity Online

*Defined as closed-end Private Capital excluding Direct Lending.

- Underperformance of some vintages is to be expected given the short-term outperformance of public equity compared to public markets.
- Looking at the KS PME method using MSCI Europe TR in Fig. 19, we can see that Europe-focused private equity funds have outperformed the public market significantly for all vintages up to 2014. With a KS PME value of nearly 0.99, vintage 2015 funds are close to an on par performance relative to public markets, so early on in their investment cycle.
- Fig. 20 shows KS PME compared to the S&P 500 TR Index for Asia & Rest of World-focused funds. 2005 vintage funds have so far fared the worst over the period compared to the public market, underperforming by 62%.





Source: Preqin Private Equity Online

Fig. 20: KS PME: All Private Equity* - Asia & Rest of World (As of 31 December 2015)



Source: Preqin Private Equity Online

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Long-Nickels Public Market Equivalent - LN PME

- Long-Nickels (LN) PME can be used to compare private equity* against a range of public indices, including the S&P 500 Total Return Index and MSCI Europe TR. If the median net IRR is greater than the LN PME value, then private equity has outperformed the public market.
- ▶ Fig. 21 shows that for most vintages across all regions, private equity has outperformed the public market, particularly in the case of older vintages (2000-2004) with smaller LN PME values compared to Preqin's median net IRR by vintage. 2002 vintage funds show particularly strong outperformance, with a median net IRR of 15.9% compared with 7.1% LN PME.

Fig. 21: LN PME: All Private Equity* - All Regions (As of 31 December 2015)



Fig. 23: LN PME: All Private Equity* - Europe (As of 31 December 2015)



Source: Pregin Private Equity Online

*Defined as closed-end Private Capital excluding Direct Lending.

- A similar trend can be seen in Fig. 22, where North America-focused private equity funds have generated high median net IRRs compared to LN PME using S&P 500 TR, and illustrates the outperformance of older vintages as well as the most recent vintages (2011 and 2012).
- LN PME using both S&P 500 TR and MSCI Europe TR is shown in Fig. 23, and illustrates the outperformance of Europe-focused funds compared to public markets; 2000-2002 vintages have seen particularly strong double-digit IRRs so far. However, for vintage 2002 funds, LN PME using MSCI Europe TR shows that an investor in European public markets would have gained a better return, despite strong private equity fund performance in the same period.

Fig. 22: LN PME: All Private Equity* - North America (As of 31 December 2015)



Source: Preqin Private Equity Online



Fig. 24: LN PME: All Private Equity* - Asia & Rest of World (As of 31 December 2015)

Source: Preqin Private Equity Online



PME+

- Using PME+ methodology, an IRR is computed for the public market which can be directly compared to the all private equity* IRR.
- Fig. 25 shows that private equity funds of older vintage years across all regions have outpaced public markets significantly, with outperformance also seen among later vintages (2011 and 2012).
- North America-focused private equity funds have witnessed similarly strong outperformance for earlier vintages compared with public markets, as seen in Fig. 26, and is indicative of the value of private equity for investors. For more recent funds focusing on this region, most vintages (2009, 2011 and 2012) have also seen outperformance relative to public markets so far.

Fig. 25: PME+: All Private Equity* - All Regions (As of 31 December 2015)







Asia & Rest of World-focused private equity funds have struggled to generate the same strong outperformance as their North America- and Europe-focused counterparts, with vintages prior to 2009 generating single-digit net IRRs (Fig. 28). Notably, older vintages (2005 and 2006) have slightly outperformed the public market, along with more recent vintages (2010 and 2012) so far.

Fig. 26: PME+: All Private Equity* - North America (As of 31 December 2015)







Source: Preqin Private Equity Online

*Defined as closed-end Private Capital excluding Direct Lending.

PME+, using MCSI Europe TR and S&P 500 TR, is compared to the median net IRRs for Europe-focused funds in Fig. 27. We can see that an investor in an early vintage Europe-focused fund has observed higher returns than if they had invested in European equities or US equities during the same period.



PERACS Alpha Public Market Equivalent

- PERACS Alpha PME uses MSCI ACWI Index to measure the annualized rate of excess return/loss when comparing private equity* returns to the MSCI World Index.
- Fig. 29 shows that private equity funds across all geographic foci have so far generated better performance compared to the public market, with the exception of the most recent vintages (2014 and 2015), which are still very early on in their fund life.
- 2011 and 2012 vintage private equity funds focused on North America in particular have each generated alpha of 7%, illustrative of how investors at this time have seen higher returns than if they had invested in public markets (Fig. 30).

Fig. 29: PERACS Alpha: All Private Equity* - All Regions (As of 31 December 2015)







^{*}Defined as closed-end Private Capital excluding Direct Lending.

- Vintage 2000 Europe-focused private equity funds have seen very strong performance compared to public markets, with a PERACS Alpha value of 18% (Fig. 31); for the most recent vintage, 2015 funds are underperforming so far but it is likely that the alpha value will increase as these funds mature.
- For private equity funds with a focus on Asia & Rest of World regions, most vintages have seen better performance compared to public markets, as seen in Fig. 32. Vintage 2001 funds in particular have generated an alpha value of 13%. As seen with other regions, the most recent vintages (2013-2015) have underperformed so far, as they are still very early in their fund life.





Source: Pregin



2008 2009 2010

2007

Vintage Year

-6%

2000

200

2002 2003 2005 2005 2006

Fig. 32: PERACS Alpha: All Private Equity* - Asia & Rest of World (As of 31 December 2015)

Source: Preqin

5%

2012

201

2013

2014 2015