

HarbourVest Global Private Equity

Celebrating its 10th anniversary

HarbourVest Global Private Equity (HVPE) is celebrating 10 years since its launch in December 2007. Over the period since its inception to end-October 2017, HVPE has outperformed global equity markets and its listed private equity peer group, represented by the LPX 50 index, in both NAV and share price terms. In this note, we analyse a series of alternative performance measures which show that, on a risk-adjusted basis, HVPE's share price performance has tended to compare favourably to global equity markets, while its risk-adjusted NAV returns have also compared positively to its listed private equity peer group over most time periods.

12 months ending	Share price (GBP %)	NAV (GBP %)	Blended benchmark* (GBP %)	FTSE All-World (GBP %)	LPX 50 (GBP %)	LPX 50 NAV (GBP %)
31/10/13	39.7	14.1	24.3	24.3	41.4	17.0
31/10/14	22.7	17.1	8.8	8.8	1.5	5.5
31/10/15	10.5	13.0	4.1	4.2	9.8	4.6
31/10/16	26.9	32.7	29.8	30.0	27.5	32.0
31/10/17	20.5	5.3	13.9	13.9	19.1	6.6

Source: Thomson Datastream, Bloomberg. Note: *Blended benchmark is MSCI AC World up to 30 November 2016 and FTSE All-World thereafter. Total returns in pounds sterling.

Outperforming global stock markets over 10 years

Over the period since its inception to end-October 2017, HVPE has achieved NAV and share price total returns of 7.0% pa and 5.7% pa respectively in US dollar terms. This compares to the 4.7% pa returns of both the MSCI AC World and FTSE All-World indices, against which HVPE has benchmarked its performance over the 10-year period. In sterling terms, HVPE's NAV and share price total returns over this period were 11.6% pa and 10.3% pa respectively, while the returns of the MSCI AC World and FTSE All-World indices were 9.2% pa and 9.3% pa respectively.

Risk-adjusted price and NAV return metrics analysed

We consider HVPE's risk-adjusted performance as a listed private equity investment company over the 10-year period since its inception to end-October 2017. We calculate three alternative performance metrics: Sharpe ratio, Sortino ratio and information ratio, over one, three, five and 10 years, and compare HVPE's share price and NAV returns to its listed benchmark indices and a listed private equity index. The Sharpe ratio represents the added value over the risk-free rate per unit of volatility risk; the Sortino ratio is a variation of the Sharpe ratio that uses downside deviation as its measure of risk; and the information ratio is a benchmark-relative return measure which incorporates the consistency of relative returns.

Valuation: Narrowing share price discount to NAV

Having previously traded at a premium to NAV, HVPE's share price moved to a 60% discount to NAV in 2009 during the global financial crisis. Subsequently, the discount has followed a narrowing trend, reaching a low of 9.6% in May 2017. This means that, while HVPE's share price return is lower than its NAV return over the 10 years since its launch, its share price returns have outperformed its NAV returns over one, three and five years, as the discount has narrowed.

Investment companies

29 November 2017

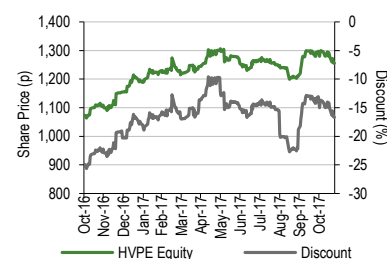
Price 1,255p
Market cap £1,002m
NAV* £1,203m

NAV per share* 1,506p
Discount to NAV 16.7%

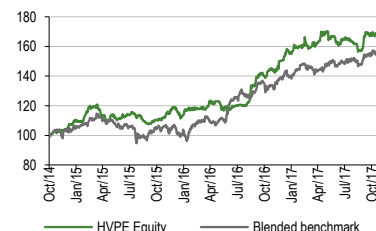
*Estimated by HVPE as at 31 October 2017.

Yield 0.0%
Ordinary shares in issue 79.9m
Code HVPE
Primary exchange LSE
AIC sector Private Equity
Benchmark FTSE All-World index

Share price/discount performance



Three-year performance vs index



52-week high/low 1,306p 1,090p
NAV* high/low 1,552p 1,426p

*Including income.

Gearing

Gross* 0.0%
Net cash* 11.0%

*As at 31 October 2017.

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Risk-adjusted performance metrics over 10 years

Private equity as an asset class is typically viewed as a higher risk investment than listed equities due to a number of factors, including less transparency over underlying investments, and infrequent valuation reporting. We review HVPE's performance over the 10 years from its launch in December 2007 to end-October 2017 across three risk-adjusted performance metrics: Sharpe ratio, Sortino ratio and information ratio, and compare these with the metrics for HVPE's listed benchmark indices and a listed private equity index. The ratios shown in Exhibits 1, 2 and 3 below have been calculated using monthly returns in US dollar terms, taking the US three-month treasury yield as the risk-free rate in the Sharpe and Sortino ratio calculations.

Our analysis shows that HVPE's risk-adjusted share price returns are broadly similar to those of the MSCI AC World and FTSE All-World indices, although the comparison is less favourable over 10 years than over three and five years. In our view, this reflects the low liquidity of the shares and consequent sharp price moves prior to HVPE listing on the LSE in 2010, together with the shares moving to a very wide discount to NAV during the global financial crisis. While HVPE's risk-adjusted returns are strong over one year, they do not match the exceptionally strong returns of the MSCI AC World and FTSE All-World indices over this relatively short period.

Sharpe ratio

The Sharpe ratio represents the added value over the risk-free rate per unit of volatility risk. The Sharpe ratio is calculated as the annualised excess return over the risk-free rate divided by the annualised standard deviation of the returns.

Exhibit 1 shows the Sharpe ratios for HVPE price and NAV returns, as well as the returns of its blended benchmark, the two indices that constitute the blended benchmark, and the respective price and NAV returns of the LPX 50 listed private equity index. All the Sharpe ratios shown are positive, which indicates outperformance of the risk-free rate. The exceptionally high values for the blended benchmark indices over one year reflect the particularly low volatility of returns over this period, combined with the above-average strength of the underlying performance.

Exhibit 1: Sharpe ratio analysis as at 31 October 2017							
	HVPE price	HVPE NAV	Blended benchmark*	FTSE All-World	MSCI AC World	LPX 50 price	LPX 50 NAV
1-year	2.66	2.80	7.89	7.90	7.93	4.38	2.89
3-year	0.78	2.03	0.78	0.79	0.78	0.88	1.21
5-year	1.45	2.20	1.13	1.14	1.13	1.14	1.54
10-year	0.18	0.88	0.27	0.28	0.27	0.10	0.12

Source: Edison Investment Research, Bloomberg, Morningstar, Thomson Datastream. Note: *Blended benchmark is MSCI AC World up to 30 November 2016 and FTSE All-World thereafter.

HVPE's share price Sharpe ratios vary considerably over one, three, five and 10 years but follow a similar pattern to the Sharpe ratios of its benchmark listed equity indices. Relative to the Sharpe ratios for the benchmark indices, HVPE's share price Sharpe ratio varies between being higher and lower over the periods shown, with no clear trend evident in terms of relative performance from a risk-adjusted perspective taking into account the volatility of returns. HVPE's NAV Sharpe ratios are much more consistent over the periods shown and are above the NAV Sharpe ratios for the LPX 50 index over three, five and 10 years, although marginally lower over one year. This suggests that HVPE has achieved superior risk-adjusted NAV returns compared with its listed private equity peers over the majority of the 10 years since its launch.

Sortino ratio

The Sortino ratio is a variation of the Sharpe ratio that uses downside deviation as its measure of risk. The Sortino ratio is calculated as the annualised excess return over the risk-free rate divided by the annualised downside deviation (standard deviation only considering negative deviations from the mean) of the returns. If the downside deviation is the same as the standard deviation over a particular time period then the Sortino and Sharpe ratios will also be the same for that period.

Exhibit 2 shows the Sortino ratios for HVPE price and NAV returns, as well as the returns of its blended benchmark, the two indices that constitute the blended benchmark, and the respective price and NAV returns of the LPX 50 listed private equity index. Similar to the Sharpe ratio analysis above, all the Sortino ratios shown are positive, which reflects outperformance of the risk-free rate.

Exhibit 2: Sortino ratio analysis as at 31 October 2017

	HVPE price	HVPE NAV	Blended benchmark*	FTSE All-World	MSCI AC World	LPX 50 price	LPX 50 NAV
1-year	2.19	2.50	6.69	6.69	6.76	4.39	2.96
3-year	0.67	1.95	0.78	0.79	0.78	0.85	1.26
5-year	1.31	2.29	1.08	1.10	1.08	1.12	1.56
10-year	0.15	0.79	0.24	0.25	0.24	0.09	0.10

Source: Edison Investment Research, Bloomberg, Morningstar, Thomson Datastream. Note: *Blended benchmark is MSCI AC World up to 30 November 2016 and FTSE All-World thereafter.

The Sortino ratio analysis shows similar results to the Sharpe ratio analysis above, which indicates that average downside deviations of monthly returns relative to the mean return over each of the time periods are broadly similar to the upside deviations. HVPE's share price Sortino ratios vary appreciably over one, three, five and 10 years but follow a similar pattern to the Sortino ratios of its benchmark listed equity indices. Relative to the Sortino ratios for the benchmark indices, HVPE's share price Sortino ratio fluctuates between being higher and lower over the periods shown, with no clear trend evident in terms of relative performance from a risk-adjusted perspective when differentiating between positive and negative volatility. HVPE's NAV Sortino ratios show much greater consistency over the periods shown and are above the NAV Sortino ratios for the LPX 50 index over three, five and 10 years, while modestly lower over one year. This analysis also suggests that HVPE has achieved superior risk-adjusted NAV returns compared with its listed private equity peers over the majority of the 10 years since its launch.

Information ratio

The information ratio is a benchmark-relative return measure which incorporates the consistency of relative returns. The information ratio is calculated as the annualised excess return over the benchmark return divided by the tracking error, which is a measure of consistency or volatility, calculated as the annualised standard deviation of the excess returns over the benchmark return.

Exhibit 3 shows information ratios for HVPE price and NAV returns against its blended benchmark, the two indices that constitute the blended benchmark, and the respective price and NAV returns of the LPX 50 listed private equity index. To give some context to the figures shown, we note that it is typically observed that the median manager or fund in a peer group has an information ratio near or below zero, while it is generally considered quite rare to see managers or funds with information ratios in excess of 1.00 over long time periods. Positive information ratios reflect outperformance of the comparative index, while negative ratios reflect underperformance.

Exhibit 3: Information ratio analysis as at 31 October 2017

	HVPE price vs Blended benchmark*	HVPE price vs FTSE All-World	HVPE price vs MSCI AC World	HVPE price vs LPX 50 price	HVPE NAV vs Blended benchmark*	HVPE NAV vs FTSE All-World	HVPE NAV vs MSCI AC World	HVPE NAV vs LPX 50 NAV
1-year	0.71	0.71	0.71	0.19	-1.53	-1.53	-1.54	-0.23
3-year	0.25	0.25	0.25	0.04	0.10	0.09	0.10	0.47
5-year	0.58	0.58	0.58	0.35	0.03	0.03	0.03	0.51
10-year	0.02	0.02	0.02	0.07	0.14	0.13	0.14	0.58

Source: Edison Investment Research, Bloomberg, Morningstar, Thomson Datastream. Note: *Blended benchmark is MSCI AC World up to 30 November 2016 and FTSE All-World thereafter.

HVPE's share price information ratios versus its benchmark listed equity indices vary over one, three, five and 10 years but indicate relatively consistent outperformance, particularly over one and five years. The lower information ratios versus the LPX 50 index largely reflect smaller performance differentials over each of the periods. HVPE's NAV information ratios are negative over one year, reflecting the exceptionally strong performance of the listed equity indices; in absolute terms HVPE achieved a 14.5% NAV return and the LPX 50 index a 15.7% NAV return, both in US dollars over one year. HVPE's NAV information ratios over three, five and 10 years indicate relatively consistent outperformance of the LPX 50 NAV return, with less pronounced outperformance of the listed equity indices. Overall, this analysis suggests that HVPE has achieved relatively consistent share price and NAV outperformance of its benchmark listed equity indices and its listed private equity peers.

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