PitchBook

Global PE & VC Fund Performance Report

Data through 1Q 2018

Contents

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Key takeaways from the analysts

Private market strategies had mixed returns in 1Q 2018. PE maintained the highest one-year rolling IRR of 18.9%, but this was down slightly from the prior period. Debt funds continued to lag other private market strategies on a one-year horizon but has better relative performance over the 10-year horizon.

Recent PE vintages continue to show strong gains in both DPI and TVPI figures. 2009 and 2011 vintage funds realized the strongest relative gains, with DPI increasing 0.25x and 0.29x, respectively, for the year through 1Q 2018.

VC net cash flows remain positive for another quarter. $36.3 billion of distributions and a relatively low contribution value in the quarter did a lot to drive this result, setting the stage for a seventh straight year of positive net cash flow.

18.9%
PE rolling one-year horizon IRR

0.25x & 0.29x
DPI increases for 2009 & 2011 vintage PE funds, respectively through 1Q 2018

$36.3B
of distributions drive positive VC net cash flows in 1Q 2018

IRR by fund type

1Q 2018 delivered a mixed bag in terms of returns, with approximately half of private market strategies moving in either direction on a rolling one-year basis. PE retained its top position among the group for the ninth straight quarter, although overall performance dipped during a volatile 1Q 2018 in public equity markets. PE's rolling one-year return of 18.9% represents a dip from the local maxima, but still rests comfortably above the post-crisis (eight-year) average of 14.8%.

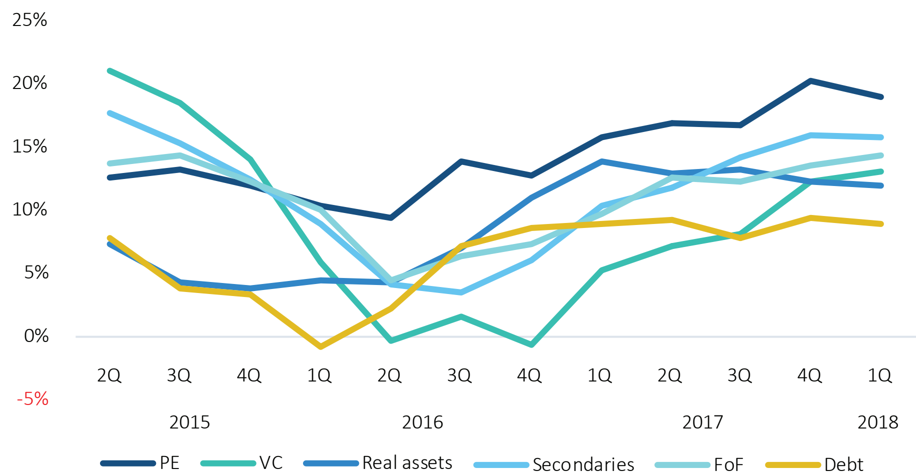
VC showed the strongest gains of any strategy compared to last quarter's rolling one-year figures, though the move higher was less than 1 percentage point to 13.1% over the year through 1Q 2018. Distributions in 1Q 2018 for VC strategies came in at a quicker pace than we've recorded in recent years and may have played a part in the positive move for IRRs since companies are often exited at a premium to where they were marked. While the VC strategy still ranks fourth of the six strategies in this performance hierarchy, the continued uptrend is encouraging in terms of the longer-term outlook, especially given the robust exit activity we saw throughout 2018.

Secondaries funds continue to hang around the top of the group in both short-term and long-term performance, which helps to explain some of the recent run-up in capital deployed in this strategy. Secondaries have obviously benefitted from the recent outperformance of PE and the recent uptrend in VC IRRs since the secondaries fund's returns are logically derivative of the assets that they hold. While the diversification and other benefits to the strategy are clear, this recent flow of capital is likely to make the space much more crowded. This competition for secondaries deals has contributed to elevated pricing of secondaries stakes that have been observed during 2018.

Debt strategies have fallen to the bottom of the private market performance in recent quarters, as many of the equity-based strategies found success beginning in mid-2016 and outperformed debt strategies. However, the stable nature of private debt as an investment is evident when looking at longer term horizons where debt is level with VC over a 10-year horizon at 8.5% IRR. With the uncertainty about the macroeconomic climate and public equity volatility that has proliferated during the latter half of 2018, private debt performance will be an area to watch and may gain more interest as investors look to temper risk. Rising rates could also be a boon to private debt performance, given that these funds tend to hold floating rate instruments.

One-year rolling IRRs show mixed results in 1Q 2018

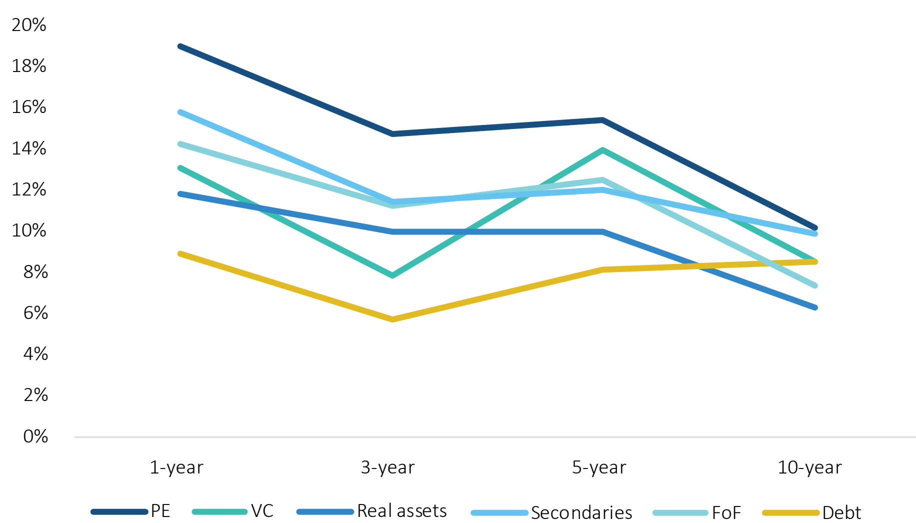
Global rolling one-year horizon IRRs by fund type



Source: PitchBook
*As of March 31, 2018

Private debt and VC IRRs equal over the 10-year horizon

Global horizon IRRs by fund type



Source: PitchBook
*As of March 31, 2018

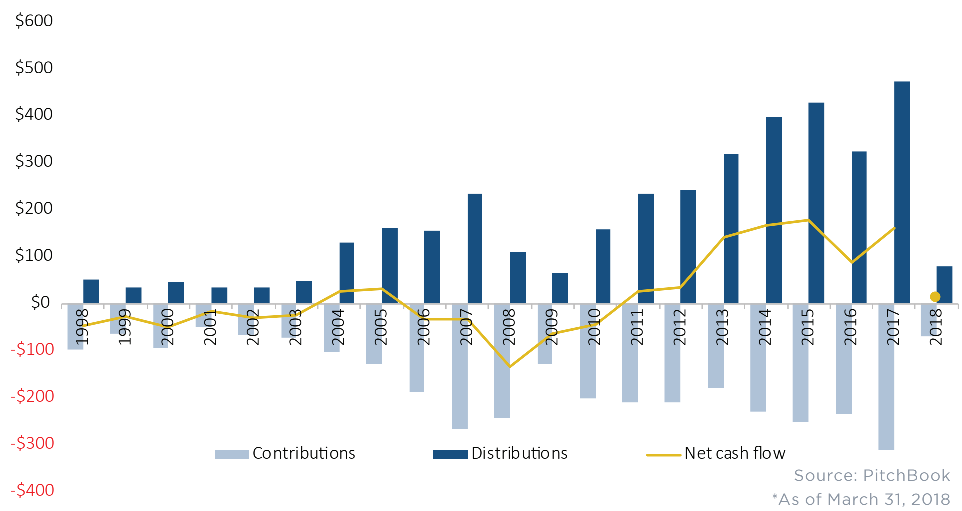
PE fund performance

2017 was a record-setting year for PE funds in terms of contributions and distributions to LPs, showcasing the growth in industry AUM and dealmaking over recent decades. 2018 got off to a markedly slower start than recent years, but net cash flows to LPs are trending positive yet again, totaling $10.7 billion through 1Q 2018. Given the lackluster PE exit market in 1Q 2018, we expected to see contributions outpace distributions, but an increase in secondaries transactions and dividend recapitalizations have allowed GPs to distribute large sums nonetheless. The consistently positive net cash flow figures since 2011 have aided subsequent fundraises, which we expect to remain steadfast in 2019, supported by data from our recently released 2018 Annual Institutional Investors Survey.

Recent vintages continue to show strong gains in both DPI and TVPI figures over the last year. 2009 and 2011 vintage funds realized the strongest relative gains, with DPI increasing 0.25x and 0.29x, respectively over the last 12 months. 2015 posted the strongest TVPI gains of 0.19x (i.e. 19% of paid-in capital). Notably, we continue to see incremental distributions from pre-global financial crisis (GFC) vintages; pooled DPI increased for 2007 vintage funds by as much as 0.14x. There is strong demand in the secondaries market for high-quality assets from these older funds. For example, stakes of 2007 vintage Silver Lake Partners III traded at 100% of NAV s of October 9, 2017, according to Palico. Overall, we expect the vintages nearing or at their planned liquidity timelines (e.g. 2009-2012 vintages) to see substantial increases in DPI figures over the next 12 months, while pre-GFC funds will continue to peter toward full liquidation.

PE net cash flows narrow in 1Q 2018

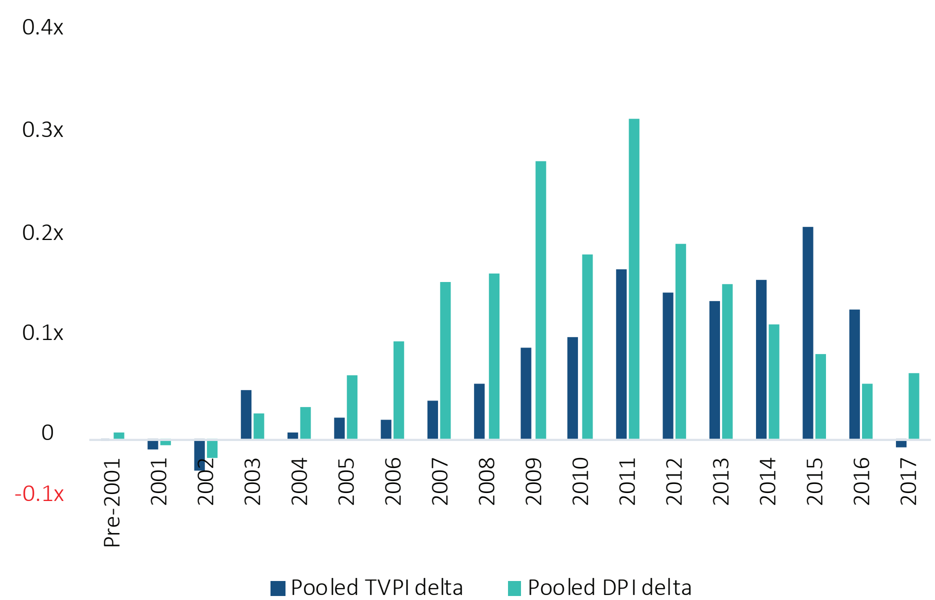
Global PE fund cash flows ($B)



Source: PitchBook
*As of March 31, 2018

2009-2012 vintage DPI multiples expected to see increase over next year

Global PE one-year change in pooled cash multiples by vintage



Source: PitchBook
*As of March 31, 2018

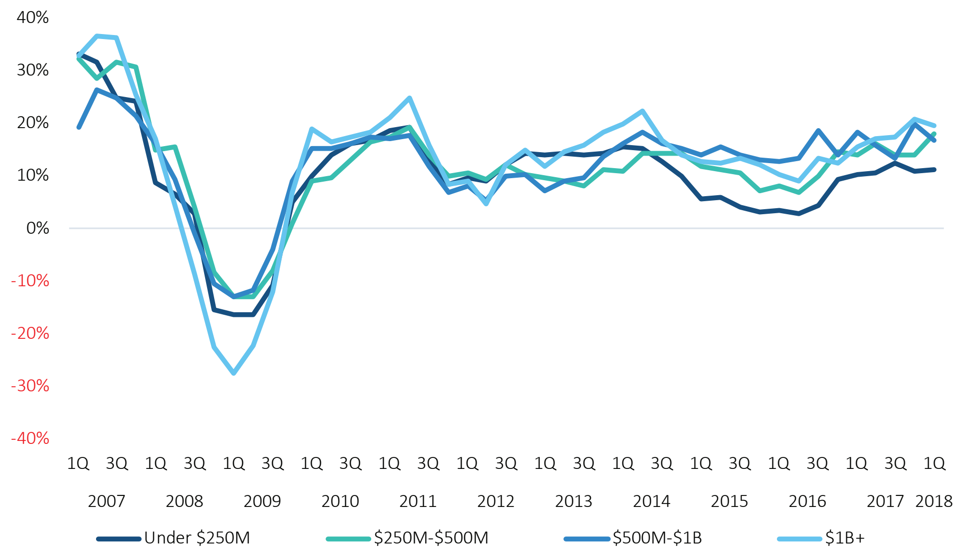
1: "Secondary Prices for 25 Private Equity Funds," Palico, October 20, 2017

Changes in performance among various sizes of PE funds tend to track fairly closely to one another over long periods, but small changes from quarter to quarter can be especially telling. From 4Q 2017 to 1Q 2018, the rolling one-year IRR decreased for larger PE funds (>$500M) but increased for smaller ones (<$499M). That said, rolling one-year performance for all size buckets has been strong on an absolute basis over the last year, ranging from 11.2% (funds under $250 million) to 19.4% (funds over $1 billion). In addition to size, these buckets vary geographically, with the largest funds tending to be based in the US or Europe and the smallest ones in emerging markets. One-year rolling horizons haven't been negative for any size bucket since the end of 3Q 2009 and are close to four-year highs for most, reflecting the strong distributions coupled with relatively strong mark-to-market valuations for the year through 1Q 2018.

Funds in the US and Europe posted similar gains over the 12 months through 1Q 2018—reporting one-year horizon IRRs of 19.4% and 20.8%, respectively. Both regions performed considerably better than funds in the rest of the world, which posted a one-year horizon IRR of 13.0%. While the horizon IRR figure can serve as a barometer for near-term performance, it's important to consider that these metrics largely represent unrealized gains, i.e. changes in NAV in a given portfolio (or group of portfolios) over a one-year period. Moving forward, we expect performance across all regions to show some volatility in 2018, through to a lesser degree than observed in public equity markets (see spotlight section "Taking stock of private market returns" on page 8).

Smaller funds' performance improves in 1Q 2018

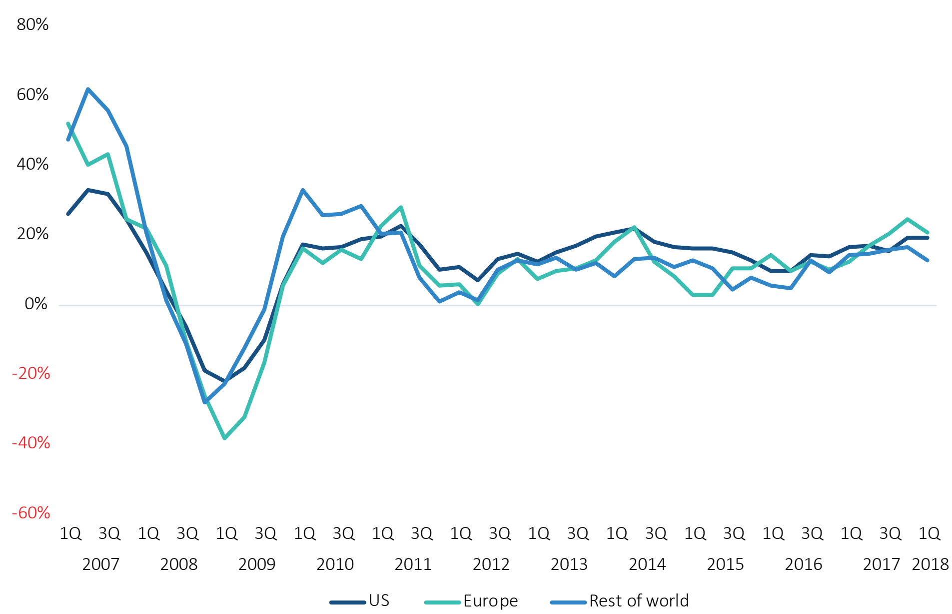
Global PE rolling one-year horizon IRR by fund size



Source: PitchBook
*As of March 31, 2018

Short-term returns converge for US and European funds

PE rolling one-year horizon IRR by region



Source: PitchBook
*As of March 31, 2018

VC fund performance

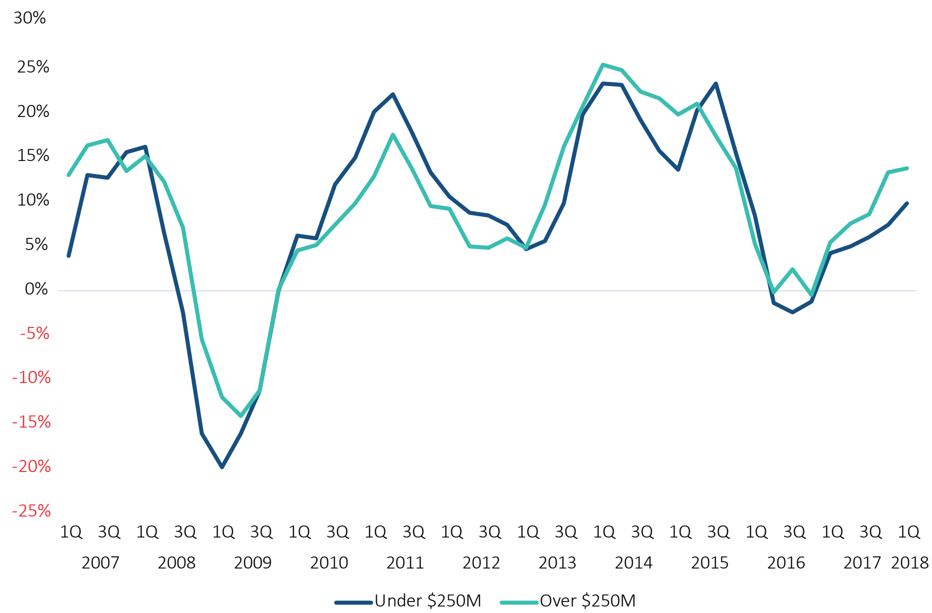
VC performance in the first quarter of 2018 started out positively, with the one-year rolling IRR ticking higher for the fifth straight quarter to 13.1%. The current uptrend has been driven by strong performance by large funds, which in this analysis we have delineated at $250 million. Large funds have maintained the upper hand in returns during the improvement over the last two years, which we would largely attribute to increased activity in the late stage and the resulting valuation growth. However, the gap between the two buckets shrank over the first quarter, which we think is partially attributable to only seven exits of $500 million+ closing during 1Q, representing a relative low over the past four quarters.

Pooled cash multiples for VC funds have seen attractive growth in the year through 1Q 2018, with only two tail-end vintage years, 2002 and 2009, posting negative changes in TVPI. This meshes fairly well with the story we saw in the broad VC deals and exits activity during early 2018, which set the stage for the eclipse of many decade records. The 2010 vintage continues to be a standout, with pooled multiples hitting 2.0x TVPI and just under 1.0x DPI, returning capital more effectively than the 2009, 2008 and 2006 vintages.

The reasoning seems to mainly be a concentration of successful funds potentially benefiting from lower levels of competition during these slower fundraising years coupled with an improving macroeconomic climate. Illustrating this efficiency of return, 42% of 2010 vintage funds have a DPI over 1.0x, with multiple funds over 2.0x already. Outperformers from the year were a diverse group, including: IA Ventures Fund I, a micro-fund; Third Rock Ventures II, a large biotech focused fund; and Union Square Ventures Opportunity Fund.

Return gap between large and small VC funds narrowed during 1Q

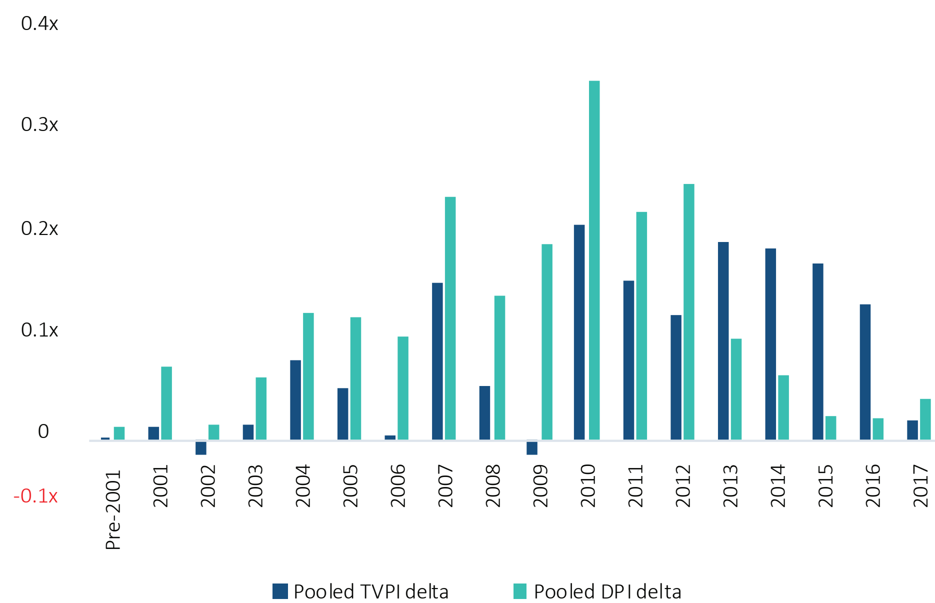
Global VC rolling one-year horizon IRRs by size bucket



Source: PitchBook
*As of March 31, 2018

2010 vintage continues strong performance

Global VC one-year change in pooled cash multiples by vintage



Source: PitchBook
*As of March 31, 2018

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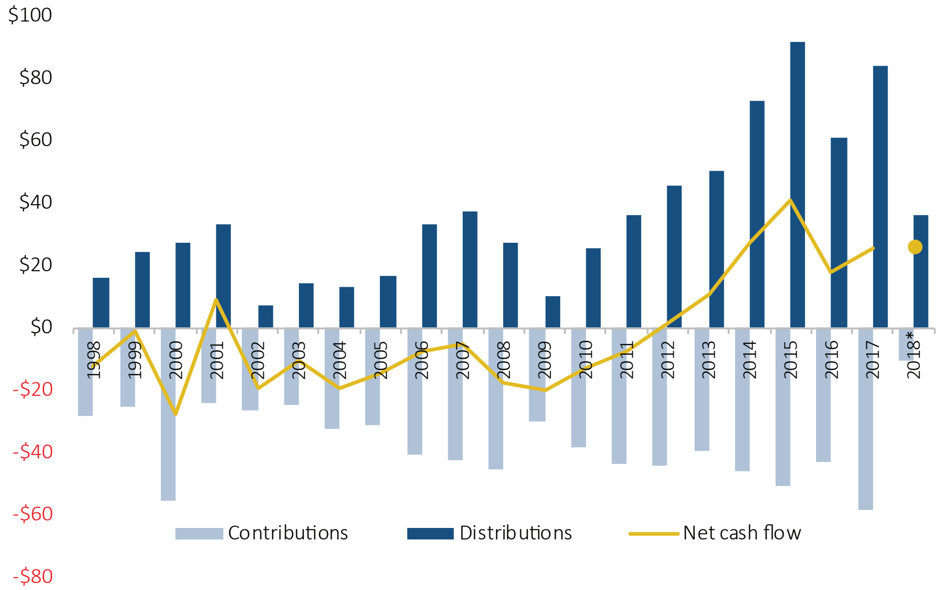
VC FUND PERFORMANCE

Net cash flows remained strong during 1Q 2018, holding steady with the pace set in 2017 and importantly setting the stage for extending the positive net cash flows for a seventh straight year. The magnitude of distributions in the quarter, resting at $36.3 billion, did a lot to drive the net cash flow result. However, a relatively low contribution value, in the context of the last four years, was arguably a larger contributing factor to this robust net cash flow. This slowdown in contributions is somewhat surprising given the deal flow data we recorded during 1Q 2018; however, the sustained above-average deal activity throughout 2018 will likely bring contributions at least up to the levels we've seen in recent years. Persistently positive net cash flows have been key to the growth of VC, encouraging the reallocation to the asset class from traditional LPs as well as broadening the number of interested institutional investors.

Cash distributions on pace for record highs in 2018

Global VC cash flows ($B)



Source: PitchBook
*As of March 31, 2018

Spotlight: Taking stock of private market returns

This case study, written by James Gelfer, senior strategist, originally appeared in PitchBook Benchmarks, which provide the most comprehensive, transparent and accurate way to assess the performance of private market investment strategies.

Key takeaways

- Using our quarterly NAV index methodology, we find that PE funds have posted the strongest returns among private market strategies since 2001, as well as over the last five years and 10 years.
- Certain private market strategies—particularly PE, VC and FoFs—exhibit high correlations with each other, but we find the strongest correlation between PE funds and public equities across multiple time horizons. The correlation between the PE NAV index and the S&P 500 TR has been 0.75 since 2001. It is even higher when rebased to 2008, but we have seen the correlation fall to 0.51 since 2013.
- VC funds have significantly underperformed private market peers when compounding returns since 2001 due to the carnage inflicted by the dot-com bubble; however, when rebasing the VC NAV index to more recent periods (i.e. 2008 and 2013), VC funds have posted strong returns on both an absolute and relative basis, outperforming most private market strategies.

Overview

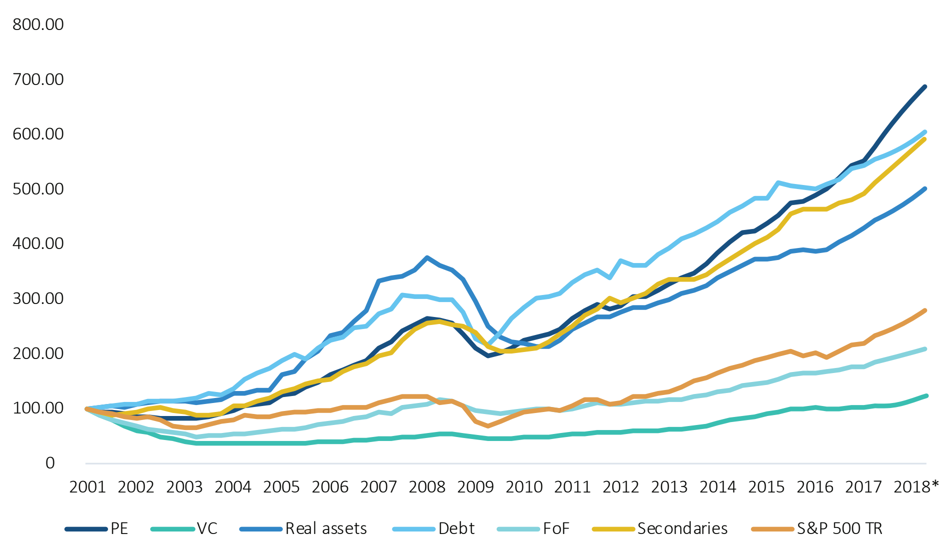
One of the benefits of private market strategies is that they insulate investors from the volatility of public markets. Some argue that this is naïve, and that the perceived lower volatility is really just illiquidity. But even if that is the case, the fact remains that the closed-end fund structure largely restricts investors (i.e. LPs) from panic selling during a downturn. "I think a lot of people go into [private equity] with very open eyes, knowing the inability to mark to market allows them to be better investors," said Cliff Asness, founder of quantitative investment firm AQR Capital Management, during a recent interview.[2]

But while the long-term perspective of private market funds is one of their purported benefits, investors nonetheless have a desire to evaluate fund performance on a regular basis. This is a difficult undertaking in private markets, however, with quarterly intervals being the shortest feasible timeframe to measure aggregate performance. To assess quarterly performance, we calculate the aggregate percentage change in aggregate NAV for each group of funds in a sample, considering contributions and distributions during the quarter. This calculation employs the same pooling methodology used for other aggregated metrics in PitchBook Benchmarks. Our default is to use capital-weighted calculations, but equal-weighted versions are also available. When public indices are shown, the quarterly change is based on the average value of the index during the period.

To help visualize this data, we apply an indexing methodology starting at a base of 100, then apply the quarterly return on a rolling basis to create a "NAV index." Performance across different periods of the market cycle can be made by rebasing the calculation at a different start point. The NAV index can also be tailored to specific fund sizes or geographies, and multiple strategies can be combined to more accurately reflect specific portfolio exposure.

PE outperforms over the long term

NAV index rebased to 100 in January 2001



Source: PitchBook
*As of March 31, 2018

2: "Cliff Asness - The Past, The Present & Future of Quant," Invest Like the Best, Patrick O'Shaughnessy

Another benefit of this methodology is that it provides an output with which investors are familiar and that can be easily juxtaposed against public market indices. While there are shortcomings to these comparisons—and we still recommend PME calculations for benchmarking against public market indices—the NAV index view can be instructive when assessing broad market trends.

PE comes out on top

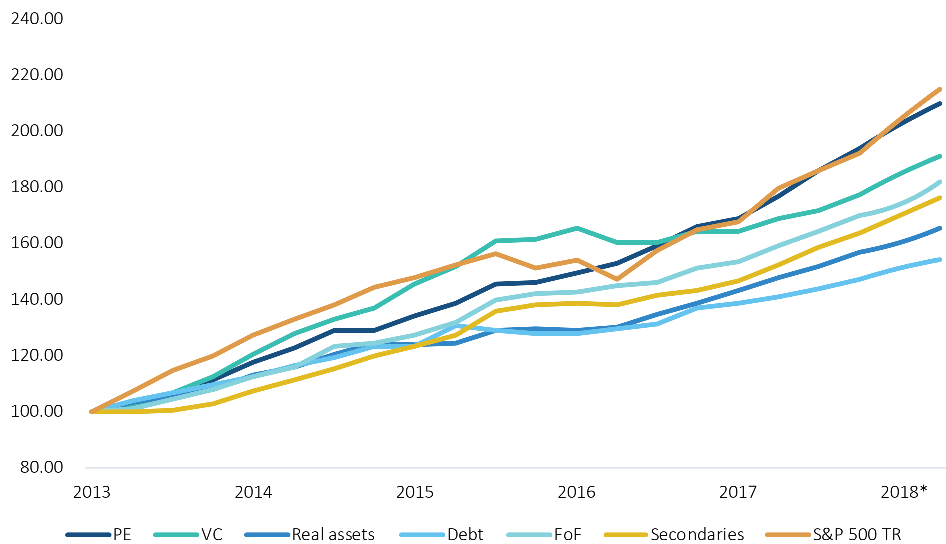
For this spotlight, we rebased our calculation to three different years to assess how performance has evolved over different periods. In terms of aggregate value accretion, PE finishes at the top of the pack among private market strategies across all three timeframes, with some of the most significant outperformance occurring over the last three years. When starting the calculation in 2001, private debt funds had outperformed through 2015, largely due to superior relative performance through the GFC, before ceding the top position to PE in the recent rally.

Over the longest horizon, VC funds have significantly underperformed due to the damage of the dot-com bubble. It took nearly 15 years for VC funds to fully recover, only managing to consistently crest the breakeven point since mid-2016. But the lasting effects of the dot-com bubble perhaps become most evident when rebasing VC returns to more recent periods. When observing performance from either 2008 or 2013, for example, VC funds have posted strong returns on both an absolute and relative basis, outperforming every private market strategy besides PE.

The performance picture looks relatively consistent across the two longest timeframes in our spotlight, but it changes drastically in the most recent period (i.e. when rebasing to 2013).

Private market strategies recently have failed to keep up with public equities

NAV index rebased to 100 in January 2013



Source: PitchBook
*As of March 31, 2018

Private debt funds—one of the best-performing strategies over the longest horizon—trail all other strategies in the most recent period. FoFs significantly underperform over the longest horizon, but performance more recently has been better than most private market strategies. One major factor that appears to be attributing to these changes is the powerful performance of equity markets, with the S&P 500 TR beating all private market strategies by a healthy margin since 2013, which has provided a strong rationale for equity-oriented private market strategies to raise their portfolio valuations.

We're not so different after all

In addition to assessing performance, quarterly returns data is useful in determining the correlation between different strategies. Diversification is often touted as a primary benefit of private market strategies, but many detractors have called that into question. PE, for instance, is often accused of being a high-priced strategy that can be replicated in public markets by adding leverage and screening for factors such as size and indebtedness. Indeed, numerous academic studies have found correlations between public equity and PE markets.[3]

While our quarterly PE NAV index is not investable, it does corroborate these findings; the correlation between PE NAV index and the S&P 500 TR has been 0.75 since 2001. It is even higher when rebased to 2008 (0.84), but we have seen the correlation fall to 0.51 since 2013. We attribute this to the sizable quarterly moves in the public equities in the last five years, with correlations tending to be lowest in periods of high volatility and dramatic market movements, as well as the significantly fewer number of reporting periods that results in a relatively small sample size. Correlations may be high, and this methodology does not account for differences in variables such as leverage and illiquidity, but the PE NAV index has outperformed the S&P 500 TR by a wide margin across long time horizons.

3: "Private Equity's Diversification Illusion: Economic Comovement and Fair Value Reporting," Kyle Welch, January 14, 2014

Between private market strategies, the highest correlations occur between PE and FoFs, which is intuitive given that FoFs are highly allocated to PE funds. Correlations are also high between PE and VC funds, which may be surprising given the documented differences in their risk/return profiles; however, both strategies involve equity investments and, therefore, employ mark-to-market practices that often mirror public equity returns. Many other private market strategies also have higher correlations than may be expected, but the best diversifiers are real asset and secondaries funds.

PE and public equities tend to be highly correlated

Correlation of quarterly returns

Since 2001

	PE	VC	Real assets	Debt	FoF	Secondaries	S&P 500 TR
PE	1						
VC	0.68	1					
Real assets	0.71	0.33	1				
Debt	0.62	0.26	0.38	1			
FoF	0.77	0.82	0.45	0.37	1		
Secondaries	0.57	0.48	0.60	0.29	0.58	1	
S&P 500 TR	0.75	0.58	0.41	0.67	0.57	0.40	1

Source: PitchBook
*As of March 31, 2018

Since 2008

	PE	VC	Real assets	Debt	FoF	Secondaries	S&P 500 TR
PE	1						
VC	0.77	1					
Real assets	0.76	0.68	1				
Debt	0.74	0.50	0.43	1			
FoF	0.70	0.71	0.55	0.56	1		
Secondaries	0.61	0.60	0.80	0.21	0.52	1	
S&P 500 TR	0.85	0.65	0.59	0.76	0.46	0.08	1

Source: PitchBook
*As of March 31, 2018

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