PitchBook

Global PE & VC Fund Performance Report

Data through 4Q 2017

Contents

Key takeaways	2
IRR by fund type	3
PE fund performance	4-5
VC fund performance	6-7
Case study: Chasing the bull	8-10

Credits & Contact

PitchBook Data, Inc.

John Gabbert Founder, CEO
Adley Bowden Vice President, Market Development & Analysis

Content

Cameron Stanfill Analyst, VC
Wylie Fernyhough Analyst, PE
Andy White Senior Data Analyst

Contact PitchBook

Research
reports@pitchbook.com

Editorial
editorial@pitchbook.com

Sales
sales@pitchbook.com

Cover design by Caroline Suttie

Click here for PitchBook's report methodologies.

Key takeaways from the analysts

PE has outperformed all other private capital asset classes across a rolling one-year horizon internal rate of return (IRR) after posting a 20.5% one-year return through 4Q 2017. Net cash flows to limited partners (LPs) reversed its recent trend and ticked upward in a year where contributions and distributions hit record highs.

VC net cash flows trended positively in 2017. On the back of record contributions driven by the uptick in dealmaking, VC funds distributed enough capital back to LPs to reverse the downward move in net cash flow in 2016. This move has served as a catalyst for the continued fundraising seen throughout 2018.

The level of outperformance for top PE funds is in decline, while even top-quartile VC funds historically have struggled to beat the market. PE's top-decile public market equivalent (PME) level crested 2.00x for vintages in the late 1990s and early 2000s but hasn't been above 1.50x since 2005; VC's median PME has been above 1.00x for only five vintages from 1997 to 2015.

20.5%
PE one-year horizon IRR

$20.7B
in VC net cash flows in 2017

5 of 19
VC fund vintages with PME above 1.00x

PitchBook

IRR by fund type

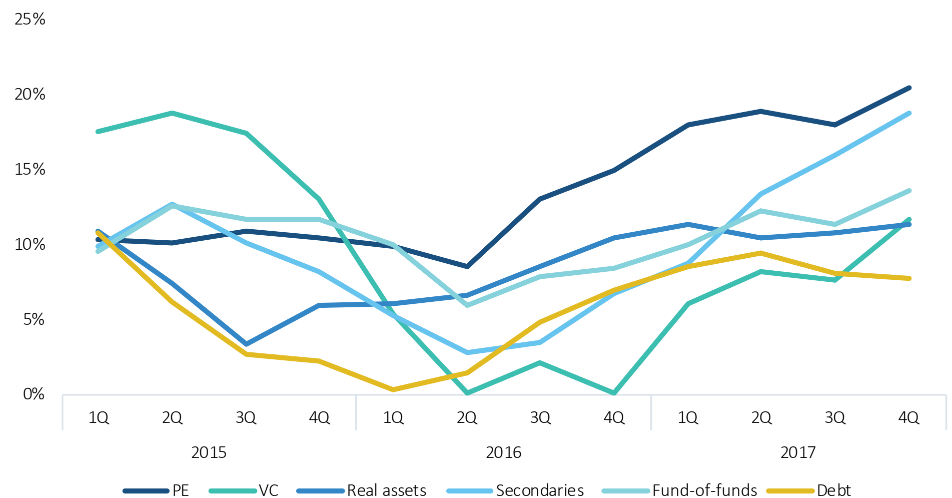
The fourth quarter of 2017 posted strong returns for nearly every private asset class, with VC recording the most significant uptick, pushing its rolling one-year horizon IRR to 11.7% from 7.6% a quarter ago. Importantly, this moved VC out of the bottom spot, advancing above both private debt and real assets, as accelerated deal activity has finally translated into returns. PE retained its spot at the top of the group, returning 20.5% over 2017, the highest figure we've recorded for the asset class since 2Q 2014. This is not extremely surprising given the record annual value of distributions from PE funds in 2017. We suspect strong public market comps assisted with the results of 2017.

The performance of secondaries funds has experienced a similar uplift based on their tangential relationship to the PE and VC funds. Because secondaries hold positions in multiple vehicles, an increase in NAV of the funds they hold creates a concomitant increase in the secondaries. While this is a boon for current holdings, it can be a drag for secondaries still purchasing new positions as pricing of LP fund stakes has trended higher over the past year, reaching par or above par for some desirable buyout assets. Since the discount to NAV can be an important driver of returns for secondaries funds, pricing increases put similar pressure on secondaries returns that PE and VC funds face from rising company valuations.

Private debt was the only fund type that struggled in 4Q 2017, as rolling one-year horizon performance fell to 7.8%, the lowest in our dataset this quarter. Given the larger picture of rising yields across the globe, the recent struggles could be reversed for vehicles that hold floating-rate instruments. Looking at the rolling 10-year horizon, debt funds have achieved an 8.0% IRR, the average of all private capital strategies over that period. Despite recent underperformance, we expect favorable long-term performance due to the relatively steady nature of debt strategies, along with higher yields from new issues.

VC one-year returns rise from bottom tier

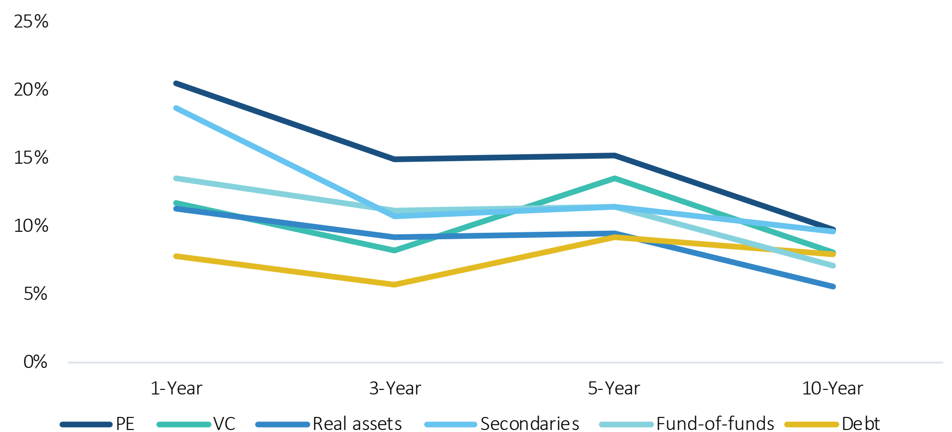
Global rolling one-year horizon IRRs by quarter



Source: PitchBook
*As of December 31, 2017

IRRs converge over 10-year horizon

Global horizon IRRs by fund type



Source: PitchBook
*As of December 31, 2017

It's clear that the equity-linked strategies, like PE and VC, experience significantly more dispersion of IRRs on a year-by-year basis, but over a long enough horizon, private capital strategies show mean reversion in aggregate much like in public markets. The difference in return variability between the various private capital strategies becomes fairly clear looking at returns by horizon. At the rolling one-year horizon, the range between the highest and lowest IRR is 12.7%, while over 10 years, this same measure is only 4.2%.

PE fund performance

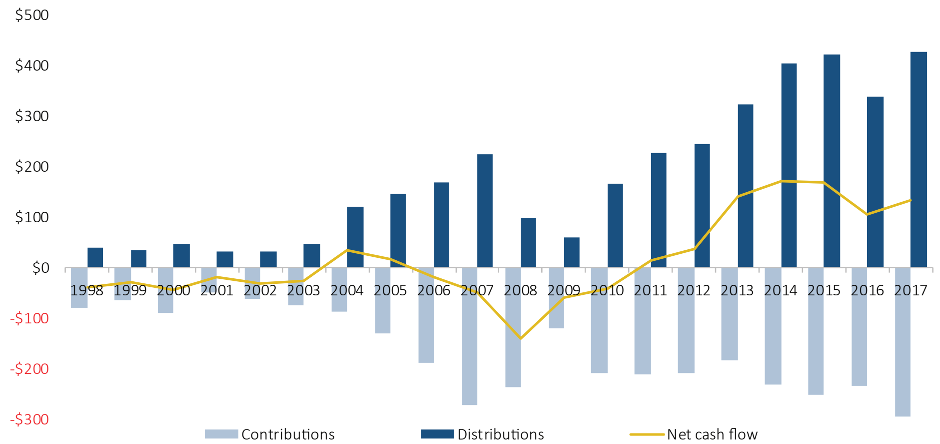
2017 marked the first time that contributions and distributions totals have set a record in the same year since 2007. In fact, the extraordinary numbers of 2017 are even more remarkable when compared to the relatively tepid figures achieved in 2016. To note, distributions in 2017 came in at $426.6 billion—26% higher than 2016. We expect the increased magnitude of these cash flows to continue, reflecting the larger fundraises and deal sizes now commonplace in PE.

Today's rich pricing environment for companies—driven by a decade-long bull market in equities and historically low interest rates—has formed a sellers' market; for this reason, general partners (GPs) have been opportunistic in exiting investments to lock in hard-fought gains. As such, distributions have far outpaced contributions to the extent that many LPs are not reallocating capital to PE quickly enough and currently sit below their stated target allocations. For example, CalPERS has a current PE allocation of 8%, below its 10% target.

Recent vintages have experienced a considerable lift to total value to paid-in (TVPI). In particular, 2016 vintage funds benefited from an increase of 0.16x in distributions to paid-in (DPI), quickly distributing capital. Older funds continue to see their annual expansion in DPI exceed that of TVPI, meaning they are paying out capital faster than the fund is appreciating in value, which is to be expected as these vehicles wind down. And though funds in the 2009-2011 timeframe continue to experience the highest DPI boost—consistent with a roughly two-year investment period and five-year holding period—funds stretching all the way back to 2005 showed meaningful growth in DPI figures during 2017.

Abundant distributions lift net cash flows, despite record contributions

Global PE fund cash flows ($B)



Source: PitchBook
*As of December 31, 2017

Newer funds recognize substantial markups

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

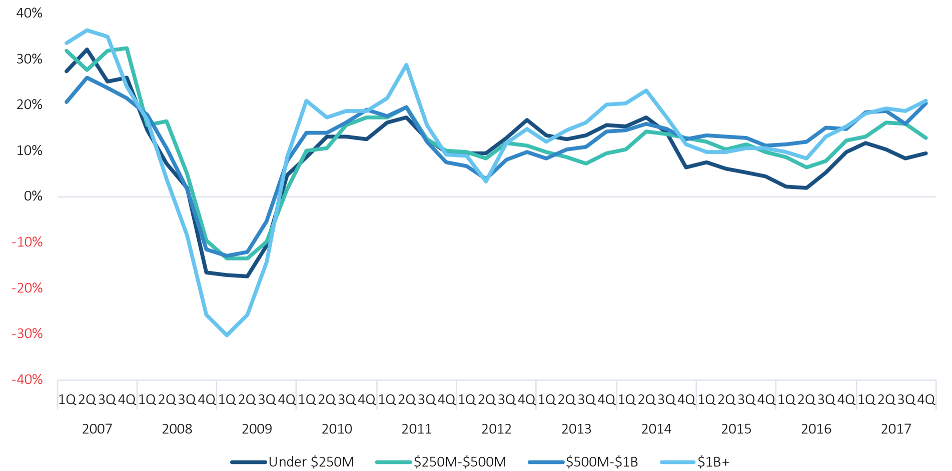
Source: PitchBook
*As of December 31, 2017

Rolling one-year horizon IRRs for PE improved across all fund sizes except $250 million-$500 million. 4Q registered tidy results, as performance was directly correlated with size, with the larger fund sizes performing well while the smaller fund sizes lagged. Much of the outperformance by large funds is due to mark-to-market changes to existing portfolio companies at a time when valuations are hovering at record levels. We have seen intense competition for the largest deals as fund sizes continue to swell and GPs attempt to invest mountains of dry powder while vying for a shrinking number of high-quality, large buyout targets. Purchase prices at the top-end of the market have been driven up at the quickest rate and have subsequently driven outsized gains for funds in the $1 billion+ size bucket.

After a tumultuous period of underperformance, European PE's recent outperformance of the US and the rest of world endured in 4Q 2017. The 28.0% rolling one-year return achieved in 4Q was the best figure for the region since 2Q 2011. Recently, European PE has flourished, with burgeoning regions such as France & Benelux (Belgium, Netherlands and Luxembourg) and the Nordic countries raising mega-funds for the first time. Overall, dealmakers maintained a sanguine outlook on the European economy in 2017, where the region's equity markets posted their best gains in four years.

Larger funds continue their outperformance

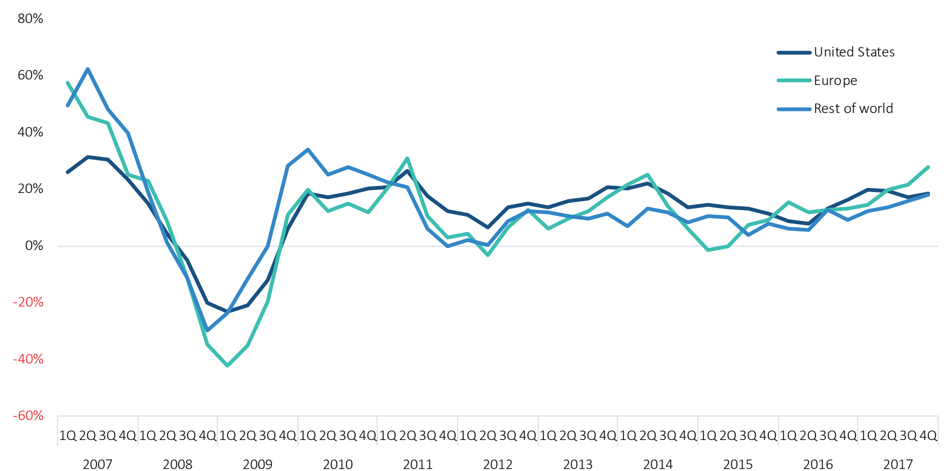
Global PE rolling one-year horizon IRR by fund size



Source: PitchBook
*As of December 31, 2017

Europe posts its best performance since 2011

PE rolling one-year horizon IRR by region



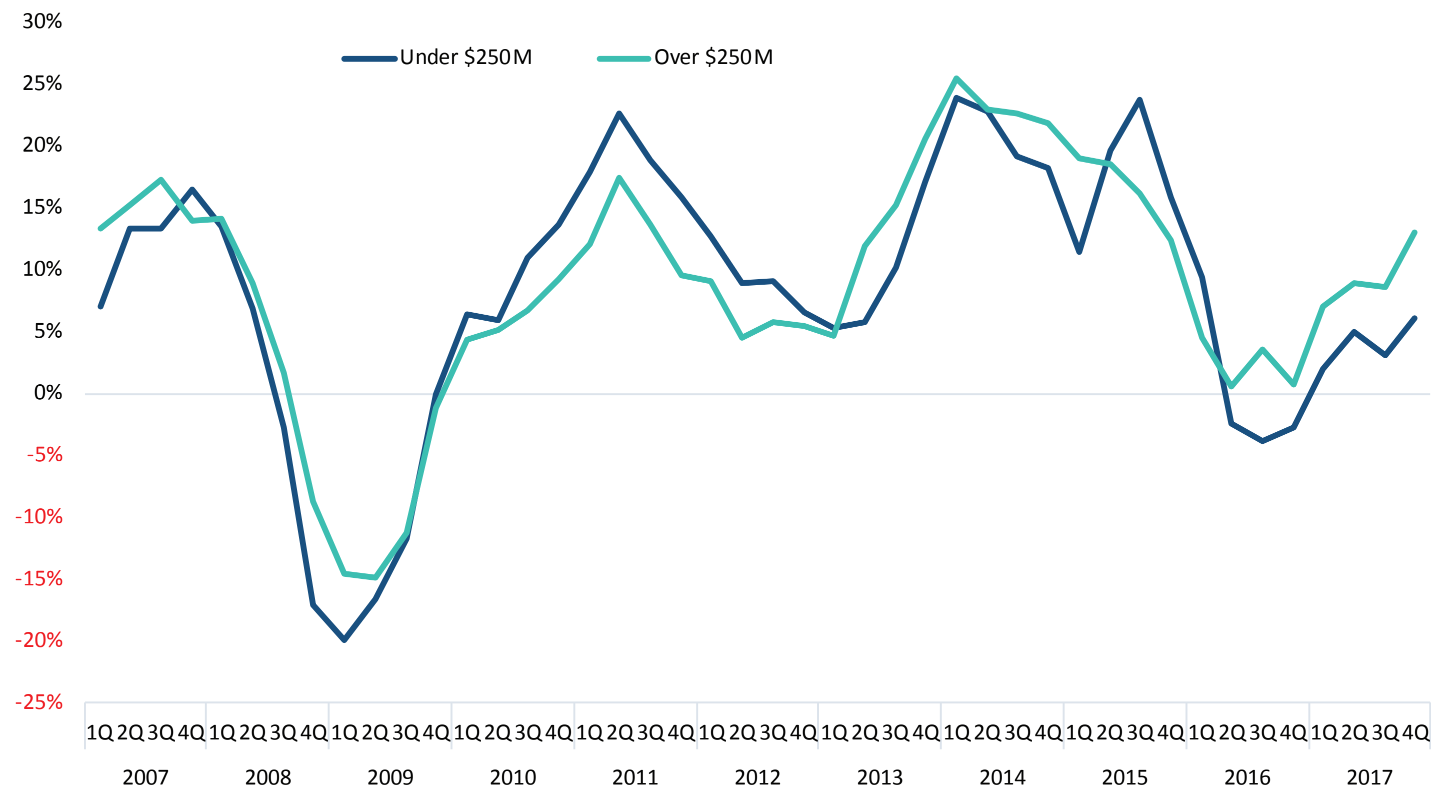
Source: PitchBook
*As of December 31, 2017

PitchBook

VC fund performance

Large VC funds continue to outperform smaller peers

Global VC rolling one-year horizon IRRs by size



Source: PitchBook
*As of December 31, 2017

With the final data coming in for 2017, VC returns ended on a high note as the rolling one-year horizon IRR eclipsed the 10-year average. Large funds ($250 million+) have continued to outperform their smaller counterparts, with the gap between the two size buckets widening with the most recent quarter's data. The outperformance points to a robust exit environment in 4Q 2017, especially at the upper end of the VC ecosystem, which included eight exits of companies valued at over $1 billion. These included the public listings of Razer, Stitch Fix and MongoDB, which provided favorable exits for a host of VC funds.

Paper valuations have increased for 2013 and newer vintages, but there have been a few reality checks for vintages entering the later stages of their lifecycle. In a continuation of a past trend, we saw strong increases in DPI multiples for vintages before 2012 while still recording TVPI gains, implying a strong exit environment even for tail-end funds. However, in recent quarters, we have seen this move into 2011 and 2012 vintages, which could still see TVPI driven by step-ups in residual valuations of portfolio holdings.

The increase in distribution multiples is a welcome development for VC investors, since they represent some realization of the value created in the VC market. A common concern has been the ability to achieve liquidity for newer vintage funds that have seen paper valuations of holdings skyrocket. Improving upon these valuations at exit in the coming years will continue to be crucial to VC returns and the willingness of investors to continue allocating to the asset class.

Cash flows were especially notable in 2017; despite robust investment activity that led to record contributions, net cash flows finished the year in positive territory and reversed the downward trend that materialized in 2016. We've

Exit events are driving valuation increases in pre-2012 vintages

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

0.4x
0.3x
0.2x
0.1x
0.0x
-0.1x

Pre-2001 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

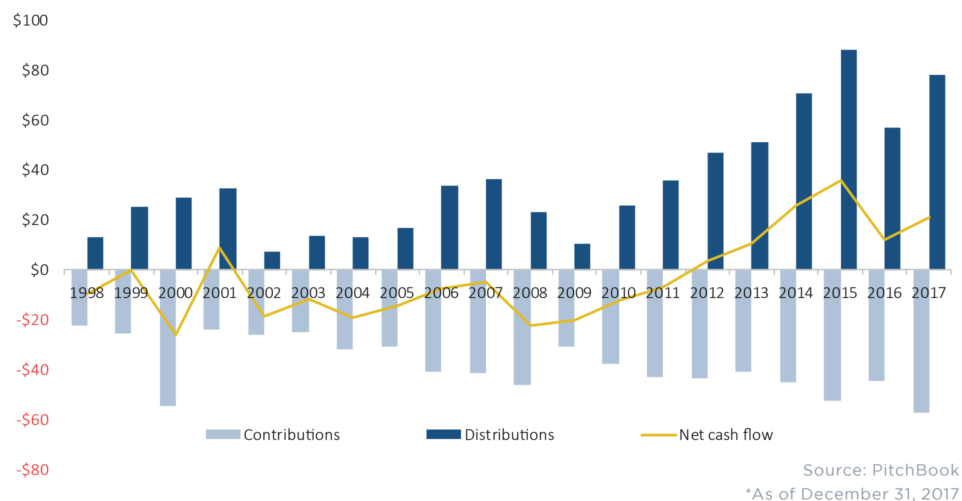
Pooled TVPI delta Pooled DPI delta

Source: PitchBook
*As of December 31, 2017

already seen how active a year 2017 was from a dealmaking and exits standpoint, but the cash flow data paints an even clearer picture of how the VC industry has changed over the past decade. As the VC environment has matured and precipitated the rise of larger funds and deal sizes, robust distributions and contributions have followed suit. Based on the deal-level data we've collected so far this year, we expect the increased magnitude of cash flows to extend into 2018. That said, deal activity has expanded at a faster pace than exits, which could cause somewhat of a drag on net cash flows to LPs. For now, this sustained period of positive net cash flows has served as a driver of the strong fundraising we've seen throughout 2017 and 2018 and encouraged further development of VC as a whole.

Net cash flow ticks higher despite record contributions

Global VC fund cash flows ($B)



Source: PitchBook
*As of December 31, 2017

PitchBook

Case study: Chasing the bull

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.

- PE managers have struggled to keep pace with the bull market in public equities. For each vintage from 2006 to 2015, the median PE fund has failed to produce a KS-PME higher than 1.00x, indicating underperformance relative to the S&P 500.
- The level of outperformance for top PE funds is in decline. While the top-decile PME level crested 2.00x for multiple vintages in late 1990s and early 2000s, it has averaged 1.34x for 2006 to 2015 vintages and hasn't been above 1.50x since 2005.
- Even top-quartile VC funds rarely beat the market. In addition to the median PME being above 1.00x for only five vintages from 1997 to 2015, the top-quartile hurdle rate is below 1.00x for six of the 19 vintages.

***Note for consistency, the S&P 500 Total Return Index was used to calculate all KS-PME values in this case study.*

Private market funds are illiquid, charge relatively high fees and require more oversight and effort than many other investments. Therefore, the expectation is straightforward when investors—whether they're a massive sovereign wealth fund, a modest college endowment or a tightly held family office—commit capital to a private capital fund: to generate returns superior to less costly investment options, namely public equity strategies. But determining whether an investor would be better off investing in a private capital fund or something else is not as straightforward as it may seem.

The primary challenges in measuring private capital performance are the illiquidity and the unpredictable timing of cash flows. IRR has long been the industry's standard, but it is seldom used to assess other asset classes—making comparisons difficult—not to mention its laundry list of flaws that have been thoroughly documented by academics and industry professionals. Cash multiples (i.e. DPI, RVPI and TVPI) are helpful and easy to understand but also prove insufficient for cross-asset comparisons, as they fail to adequately account for the inherently sporadic timing of cash flows for private market strategies.

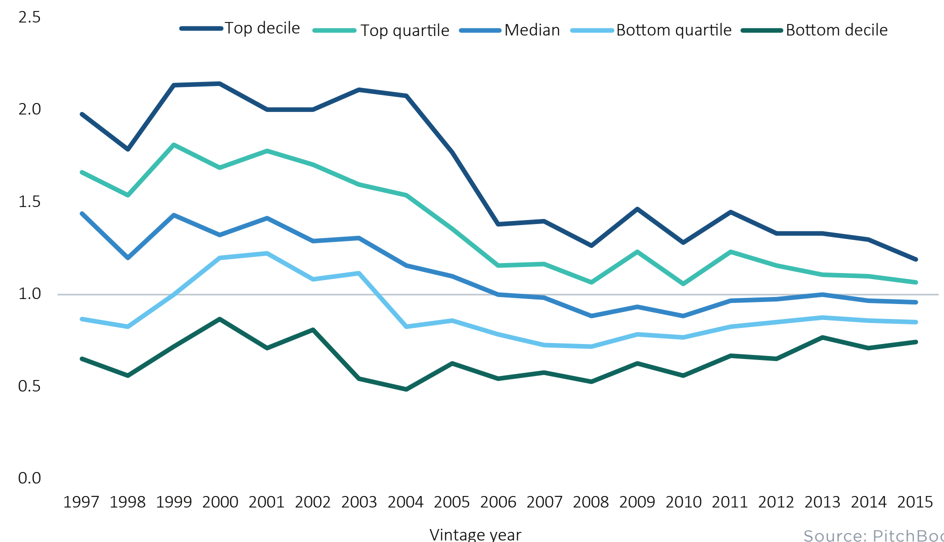
While lesser known outside private capital markets, public market equivalents (PMEs) have become the preferred method for most academics and many leading industry professionals to assess performance. At PitchBook, we typically use pooled PMEs to assess the aggregate performance of private capital strategies relative to other strategies, but this methodology masks the wide degree of dispersion among managers. Indeed, an ongoing question for allocators of capital is what role manager selection plays in the overall performance of a private markets strategy. For this case study, we've calculated individual PMEs for each fund included in PitchBook Benchmarks to provide a more comprehensive picture of how private capital's performance relative to public equities has evolved.

Private equity: Are the good times gone?

Starting with PE, we find that for vintages in the late 1990s and early 2000s, 60%-85% of funds produced a

Relative PE performance has fallen for more recent vintages

PE KS-PME percentiles



Source: PitchBook
*As of December 31, 2017

PME of 1.00x or greater, which indicates outperformance. Even the bottom-quartile PME exceeded 1.00x in certain years, underscoring the widespread ability of managers to beat the market. But performance has been less rosy for more recent vintages, which have struggled to keep pace with the incessant rise in public equities.

Whereas an investor in PE two decades ago could essentially pick a GP at random and have a better than 75% chance of "beating the market," for vintages since 2006 those odds are worse than a coinflip. As the average return for PE funds has moved lower, so too has the potential for outsized returns. Indeed, while the top-decile PME level crested 2.00x for multiple vintages in late 1990s and early 2000s, it has averaged 1.34x for 2006 to 2015 vintages and hasn't been above 1.50x since 2005. So not only are fewer managers beating the market, but their level of outperformance has shrunk too.

This systematic downturn in PME values is being driven by developments on both sides of the equation. On one side is the decade-long bull run in equity markets. The S&P 500 has posted gains each year since 2009, including three years with returns in excess of 20%, which has made it difficult for PE to keep pace. Another factor is that the average returns on an absolute basis for PE funds have fallen due to a confluence of factors, with the most important being heightened competition that has elevated purchase-price multiples.

The question is whether this sea change will prove cyclical or structural as markets turn. For public equities, while the length of the recovery is not unprecedented, it is unlikely they will continue to perform as strongly in the future. Over the next decade, Morningstar predicts US stocks will post nominal returns of just 1.8% while Vanguard has a slightly more optimistic target of 3%-5%.[1] And while PE returns seem unlikely to revert to the levels seen in the early days of the industry, certain managers have exhibited the ability to consistently outperform both the public equity markets and their peers.

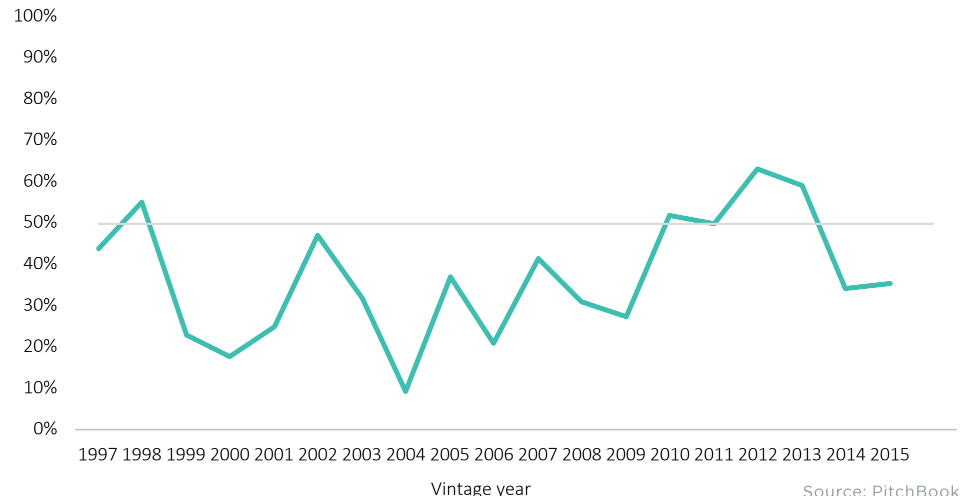
In recent vintages, the average PE manager has failed to beat the market

Percentage of PE funds with a KS-PME > 1

Source: PitchBook
*As of December 31, 2017

VC funds historically have struggled to beat the market

Percentage of VC funds with a KS-PME > 1

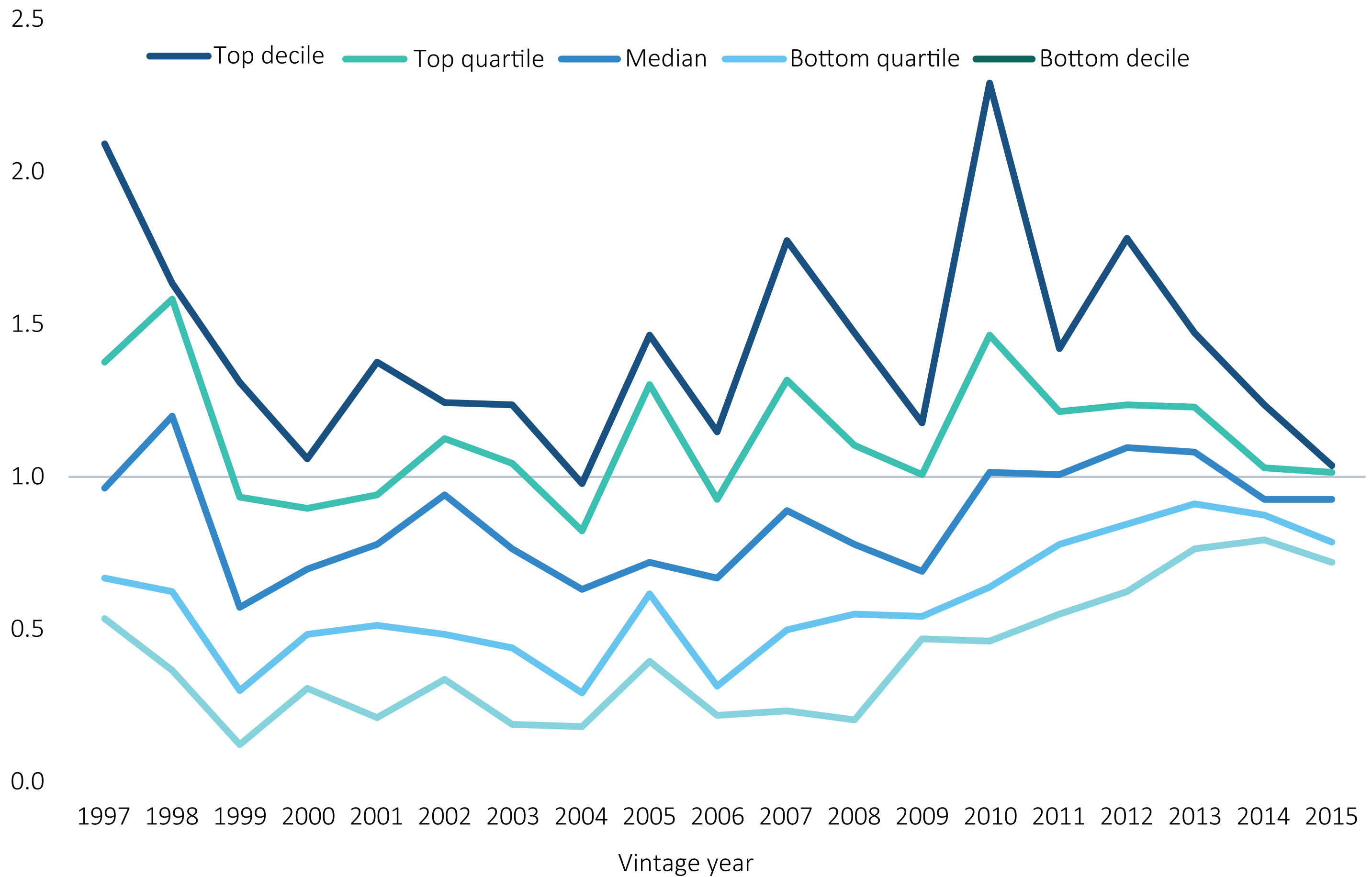


Source: PitchBook
*As of December 31, 2017

1: "Experts Forecast Long-Term Stock and Bond Returns: 2018 Edition," Morningstar, Christine Benz, January 8, 2018

Only the top VC funds tend to outperform

VC KS-PME percentiles



Venture capital: Swinging for the fences

VC investors often use baseball metaphors when discussing performance. Deals are often categorized as strikeouts and homeruns, with VCs expecting outsized successes to carry the performance of the fund. The data suggests that this metaphor holds for limited partners (LPs) committing to VC funds too. The median PME is above 1.00x for only five vintages from 1997 to 2015, four of which occur post-2010 (i.e. vintages with mostly paper gains). This indicates that when LPs are selecting VC funds, it takes a fair amount of skill (and maybe some luck) just to keep pace with public equity markets.

But even choosing a top-quartile fund may not prove a compelling enough proposition to warrant the requisite time and resources associated with VC investing; the top-quartile hurdle rate is below 1.00x for six of the 19 vintages in our sample. The bottom-quartile hurdle rates underscore the significant risk of substantial underperformance. In the PE data, the lowest bottom-quartile PME hurdle rate was 0.72x, while it dipped as low as 0.28x for VC funds. Performance has been better for more recent vintages, but it is important to remember that many of their holdings have yet to be exited and, therefore, we will not know the true performance of these vehicles for many years.

For LPs committing to VC funds, it is important to understand that any particular fund will likely underperform a plain vanilla allocation to public equity markets. But simply beating the market generally isn't the modus operandi for VC investments, and LPs should be seeking out not just the top-decile managers, but those at the very top of the distribution that can and have generated PMEs of 3x, 4x, and, in rare cases, even double-digits. Just as VCs aspire to find the next Google or Facebook, LPs should commit capital with the intent of identifying the next Accel V or Union Square Ventures 2004.

COPYRIGHT © 2018 by PitchBook Data, Inc. All rights reserved. No part of this publication may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, and information storage and retrieval systems—without the express written permission of PitchBook Data, Inc. Contents are based on information from sources believed to be reliable, but accuracy and completeness cannot be guaranteed. Nothing herein should be construed as any past, current or future recommendation to buy or sell any security or an offer to sell, or a solicitation of an offer to buy any security. This material does not purport to contain all of the information that a prospective investor may wish to consider and is not to be relied upon as such or used in substitution for the exercise of independent judgment.