

Editor's Letter

Past Performance Can Help You Create a Winning Private Fund Portfolio

Introduction

Since 2000, less than 7% of active mutual funds have outperformed their benchmarks for three years in a row and only a handful have shown outperformance over four years or longer. It does not seem to be a fruitful exercise to spend resources to identify mutual funds that could produce alpha. How about private funds that operate in the alternative assets space? Does it make sense for asset allocators to spend resources to identify potential top performers? Is there performance persistence among private funds, and can this persistence be used to create a winning portfolio?

Given the heterogeneity of alternative assets, it turns out that persistence of performance is not a characteristic shared by all funds in all strategies. Some display as little persistence as mutual funds while some show remarkable persistence over several years. It is important to point out that the analysis presented here along with a review of currently available academic studies show that performance persistence is rarely permanent. Even in the best cases, the persistence disappears after about five years. The lesson is that asset allocators must remain vigilant and ready to move on from underperforming managers as studies have shown that the persistence is present among poor performing funds as well. It is important to note that almost all academic studies that examine performance persistence rely only on past performance to identify managers that are likely to outperform their peers in the future. Consequently, asset allocators who have access to additional information about private funds should be able to do much better by identifying managers who are most likely to outperform their peers over longer periods of time.

As mentioned above, there is strong evidence that persistence is found among top and bottom performing managers. However, firing underperforming managers poses several challenges. There are both direct and indirect costs associated with firing a manager. The investor is likely to lose future access to the fired manager. Lockups may prevent the investor from firing the manager, which means selling a position in the secondary markets might be the only option. In this case, there are likely to be losses associated with the sale. Next, the withdrawn capital must be reallocated to a new manager, which will result in a costly due diligence process. Also, the investor may not be able to find a suitable manager right away, and therefore the capital remains idle. Still, there are significant benefits in withdrawing funds from a poor performing manager. There are substantial differences between the average performance of top quartile managers and bottom quartile managers. In the case of hedge funds, the difference could be around 500-600 basis points annually, while it is about twice as large for private equity and venture capital funds.

Hedge Funds

The analysis here is based on the CISDM-Morningstar¹ hedge fund database. To minimize the impact of survivorship bias, both live and dead funds have been used. One can measure performance persistence using several different methods. For instance, we can examine raw returns and count the number of funds that outperform the median return in 2, 3, 4, etc. consecutive periods. Alternatively, we can use some measure of risk adjusted returns to do the ranking. To keep matters simple, we will use the raw returns. Next, we need to determine if the number of funds that display persistence is not just driven by noise and that the results are significant. A variety of methods can be used to measure the statistical significance of persistence. We use a combination of cross product ratio and rank correlation to measure the significance.

Exhibit 1 shows the percentage of hedge funds that displayed significant persistence between 1996 and 2013. The sample size changes throughout the study with the average size being close to 3000. Note that persistence here covers both "winners" who end up being winners in the subsequent periods as well "losers" who end up being losers in subsequent periods. For example, close to 43% of those funds which performed better or worse than the median performed better or worse than the median in the next month. We can see that as we move to 36 months in the future, the percentage of funds displaying persistence declines significantly. By the way, more than 60% of persistence cases are due to those funds that perform poorly. In short, the sample of funds that consistently perform well is rather small. More importantly, persistence almost disappears after 36 months, which means that investors who want to take advantage of this property must be willing to turnover a significant portion of their hedge fund portfolio every 3-4 years. Another important point to remember is that the degree of persistence among funds of funds is roughly the same as that of hedge funds.

The above results do not appear to be very promising. However, as we show below, skilled managers' past performance appears to be a strong indicator of future performance once we control for strategy differences. That is, a skilled convertible fund manager is more likely to outperform its peers more frequently and consistently.

Exhibit 2 displays the results for several strategies. The first observation is that a higher percentage of funds display performance persistence. Second, the degree of persistence does not decline as rapidly as the one observed when all hedge funds were lumped together.

We can see that a few strategies display strong persistence and minimal drop off at different time horizons. For example, close to 40% of merger arbitrage managers display strong persistence for at least 36 months. The same applies to multi-strategy where about

Percentage Displaying Persistence 1996-2013

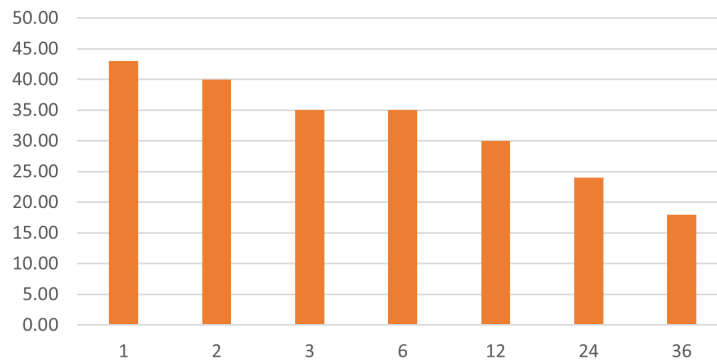


Exhibit 1: Percentage of hedge funds that display performance persistence.

Source: CISDM

30% of funds display strong persistence. On the other hand, some strategies display strong performance only at short horizons. Other studies have shown that fund managers that have a distinct approach to a given strategy are more likely to display persistence. For instance, a convertible arbitrage manager who employs a unique implementation of this strategy is more likely to display persistence – good or bad.

The lesson here is that asset allocators can create a portfolio of managers with great potential to outperform their peers, but they may have to give up the idea of having a diversified portfolio of hedge fund strategies unless they are willing and able to turn over a meaningful portion of their portfolio every 18-24 months, a rather impractical strategy. Those investors who are willing to accept a hedge portfolio that is not fully diversified among various strategies will have a better chance of creating a winning portfolio.

Percentage of Funds By Strategy Displaying Persistence 1996-2013

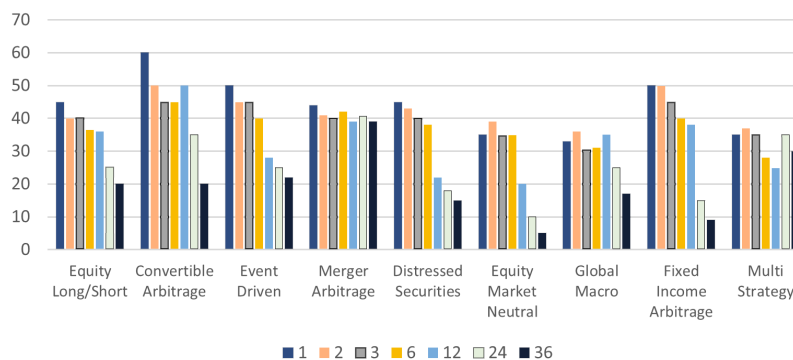


Exhibit 2: Percentage of Funds that Display Performance Persistence by Strategy.

Source: CIDM

Private Equity (PE), Buyout (BO), and Venture Capital (VC) Funds

A number of studies have examined performance persistence among PE, BO and VC funds. Since data is not as widely available in this area and funds may use different methods to report their performance, the issue of performance persistence is less settled in this area. Unlike hedge funds where one examines the performance persistence of a fund at various time horizons, for PE, VC and BO funds we must limit ourselves to follow-on funds. In addition, in order avoid any bias related to interim reported returns we must wait until a fund is liquidated to use the return realized by investors. This means that the most recent year that one can study is likely to be several years ago.

First, let's us consider the probability that a follow-on fund will be in the top quartile conditioned on the performance of the first fund. Exhibit 3 displays these conditional probabilities for BO funds. We can see, for instance, that there is about 37% chance that the first follow-on (FO1) of a BO fund that its previous fund was in top quartile will be in the first quartile as well. However, the probability that its second follow-on fund of the same buyout fund will end up in the top quartile is just above 20%. Interestingly, the second follow-on funds of BO funds that were not initially in the top quartile are more likely to end up in the top quartile. Clearly, there is some degree of mean-reversion at work here. The lesson from these results is that investors should strongly consider investing in the first follow-on funds of successful buyout funds. However, second and third follow-on funds should stand on their own, and historical performance of the GP is not a strong indicator of future performance.

Buyout Funds: Conditional Probability That a Follow-On Buyout Fund Will in Top Quartile
1993-2008

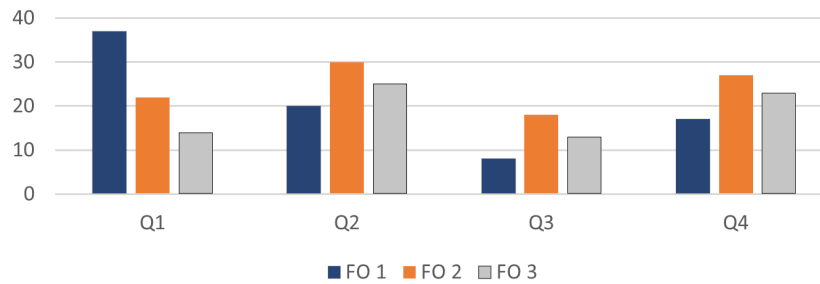


Exhibit 3: Percentage of Funds that Display Performance Persistence by Strategy.

Source: CIDM

The results for VC funds are presented in Exhibit 4. Unlike BO funds, there appears to be significant persistence among VC funds. For top quartile funds, first, second and even third follow-on funds have a good chance (30-35 percentage) of ending up in the top quartile. On the other hand, as far as VC funds are concerned, follow-on funds of bottom half require extra care and due diligence.

VC Funds: Conditional Probability That a Follow-On Fund Will in Top Quartile
1993-2008

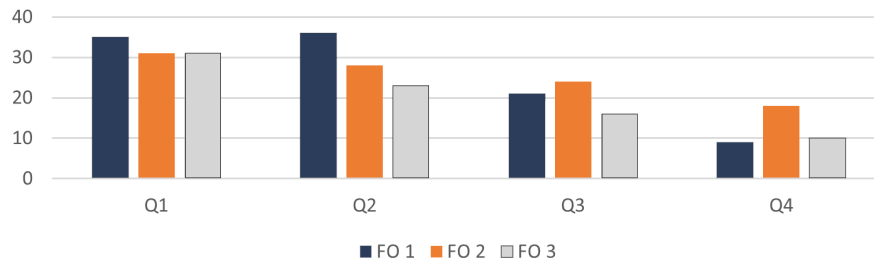


Exhibit 4: Conditional Probability for Follow-on Buyout Funds to Appear in the Top Quartile.

Source: Preqin² & J.W. Chung³

Studies of PE funds' performance can vary depending on the time period and the data source. For example, a recent paper by Harris et al, examines the performance persistence for follow-on funds for two periods – pre-2001 and post-2001. They show that since 2001 BO funds have not displayed any performance persistence. On the other hand, as shown in Exhibit 5, strong performance persistence continues to exist among VC funds. For instance, we can see that there is 48% of the first follow-on funds of top quartile VC funds have ended up being in the top quartile.

	First Follow-On VC Fund Post 2001			
	Q1	Q2	Q3	Q4
Q1	48%	20%	26%	6%
Q2	24%	43%	12%	22%
Q3	17%	23%	42%	19%
Q4	23%	14%	34%	29%

Exhibit 5: Post 2001 Conditional Probability for the First Follow-on VC Fund to Appear in the Top Quartile

Source: Harris et al⁴

As several studies have shown, the first follow-on funds of top performing VC funds have about 50% chance of landing in the top quartile. Also, we see that the follow-on funds of second quartile funds are most likely to land in the second quartile, still above average.

Private Real Estate

There are far fewer studies regarding performance persistence among private real estate funds. Also, similar to PE, VC and BO funds, one can only measure performance persistence by examining the follow-on funds. Exhibit 6 displays information about the importance of prior performance for private real estate funds.

	First Follow-On Fund			
	Q1	Q2	Q3	Q4
Q1	34%	23%	27%	16%
Q2	25%	36%	24%	15%
Q3	16%	29%	26%	28%
Q4	16%	22%	20%	42%

Exhibit 6: The Conditional Probability of a Follow-On Fund to Appear in Quartiles

Source: Preqin

According to Exhibit 6, there is 34% chance that the first follow-on fund of a top quartile manager to land in the top quartile. The same probability drops to just 16% for a bottom quartile fund. In other words, past performance of private real estate funds will matter and can be used to identify funds that are more likely to outperform their peers. Performance persistence is present among both US and non-US private equity real estate funds. However, the evidence is weaker for non-US funds. Also, depending on how outperformance is measured, the degree of persistence could change. In particular, persistence is much stronger if one defines winners as those funds that had above median performance. On the other hand, if winners are defined as those funds that were in the top quartile, then persistence is weaker.

Conclusion

Past performance is an important indicator of future performance among certain private fund strategies. In case of hedge funds, the persistence becomes weaker as one looks at performance 3-4 years out, and while past performance seems to be a good indicator of the potential relative performance of the first follow-on fund for private equity funds, the rankings of subsequent funds appear to be entirely random.

Using past performance as the only guide for selecting managers is, of course, not a wise strategy. However, ignoring past performance is equally unwise. A number of studies have examined characteristics of funds that display strong persistence. In case of hedge funds, we observe the strongest persistence among smaller and younger funds and those funds that are not strongly correlated with their peers. Also, hedge funds that have performed relatively well during periods of increased market stress, tend to perform well when markets recover, and their outperformance appears to persist. It seems that funds with strong risk management and control systems are more likely to repeat as winners.

Among private equity funds, larger funds tend to display stronger performance persistence when it comes to their first follow-on funds. The advantage disappears with subsequent funds. In addition, private equity funds with industry focus tend to display stronger performance persistence if the first follow-on fund focuses on the same industry.

Endnotes

1. CISDM is a research center association with Isenberg School of Management, University of Massachusetts, Amherst.
2. <https://www.preqin.com/>
3. Chung, Ji-Woong, Performance Persistence in Private Equity Funds (March 1, 2012). Available at SSRN: <https://ssrn.com/abstract=1686112> or <http://dx.doi.org/10.2139/ssrn.1686112>
4. Harris, Robert S. and Jenkinson, Tim and Kaplan, Steven N. and Stucke, Rüdiger, Has Persistence Persisted in Private Equity? Evidence from Buyout and Venture Capital Funds (February 28, 2014). Darden Business School Working Paper No. 2304808; Fama-Miller Working Paper. Available at SSRN: <https://ssrn.com/abstract=2304808> or <http://dx.doi.org/10.2139/ssrn.2304808>

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