Buyout Fund Size vs. Performance

CanterburyConsulting | January 2019

One of the most consistent questions related to private equity buyout funds is about the impact of fund size on performance. Do smaller funds outperform due to lower acquisition multiples, the ability to capitalize on operational inefficiencies, and inexperienced management teams? Or do larger funds outperform, as target companies have more predictable cash flows, stronger market positions, and are more likely to survive a downturn? The following analysis seeks to answer this overarching question.

Data Set

Canterbury sought to analyze the impact of fund size on performance by using Preqin's database for a sample of 907 buyout funds raised between 1995 and 2015 in the U.S. and Europe. Data is as of March 31, 2018, and funds below $100 million were excluded from the analysis.

The flat trend line and miniscule R-squared value in Figure 1 below indicate no fundamental correlation between fund size and performance, which dispels the notion that funds are not able to generate the same returns, on average, once they reach a certain size. The dispersion of returns is higher with smaller funds, which is in part pronounced on the graph due to a large concentration of funds below $2 billion.

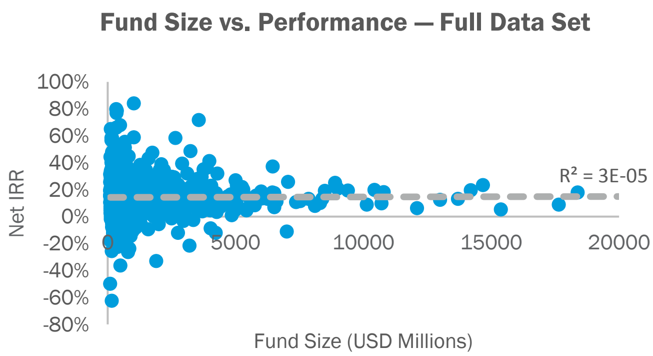

Figure 1. Source: Preqin as of March 31, 2018

Volatility of Performance

While median performance does not have a strong correlation with fund size, some further analysis shows that the first and third quartile thresholds compress toward the median with larger funds (Figure 2).

Fund Size (USD)	Third Quartile Performance	Median Performance	First Quartile Performance
<250MM	6.0%	13.1%	22.5%
250MM – 500MM	6.2%	12.9%	20.9%
500MM – 1B	5.9%	12.4%	18.9%
1B – 3B	8.2%	13.7%	19.5%
3B – 6B	8.9%	15.1%	20.8%
6B+	9.9%	13.2%	18.8%

Figure 2. Source: Preqin as of March 31, 2018

Expanding on volatility of returns, the standard deviation of returns for each fund size category is shown in Figure 3. There is a significant correlation between fund size and standard deviation, which decreases from 16.8% in funds below $250 million to 7.8% in funds above $6 billion. Interestingly, the standard deviation of returns of funds between $500 million and $6 billion is relatively consistent.

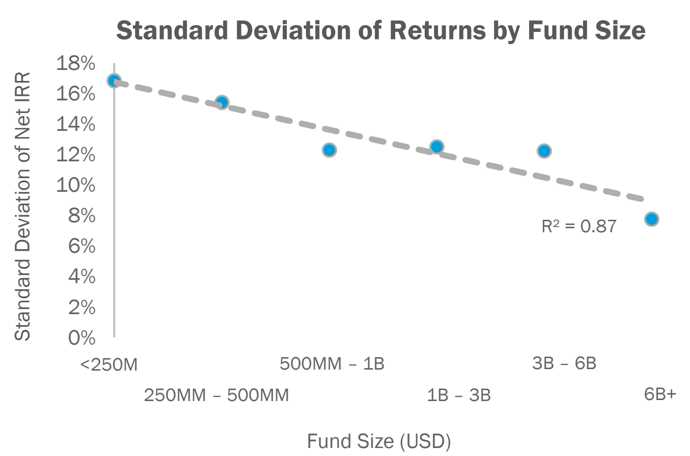

Figure 3. Source: Preqin as of March 31, 2018

While it has been established that smaller funds have exhibited higher volatility, Figure 4 displays the extent that downside was reduced and upside was sacrificed with larger funds. While the reduced volatility of larger funds results in a more predictable return, the likelihood of outsized returns or significant underperformance decreases significantly.

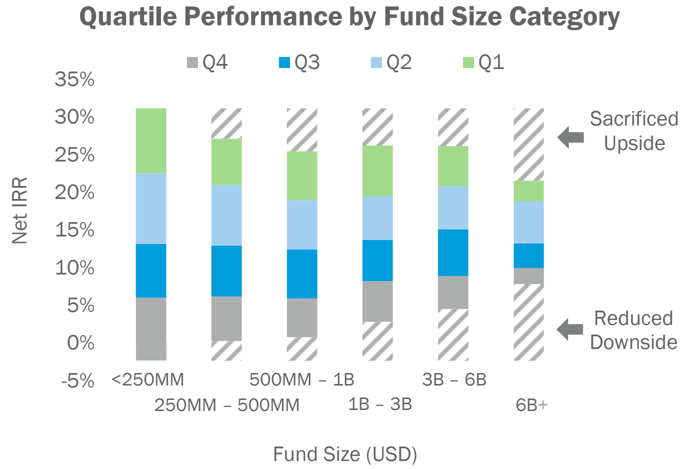

Figure 4. Source: Preqin as of March 31, 2018

Impact of Market Environment

Since the period between 1995 and 2015 encompasses many different investment environments, we sought to examine whether funds with investment periods in different market cycles displayed the same trend as the overall data set.

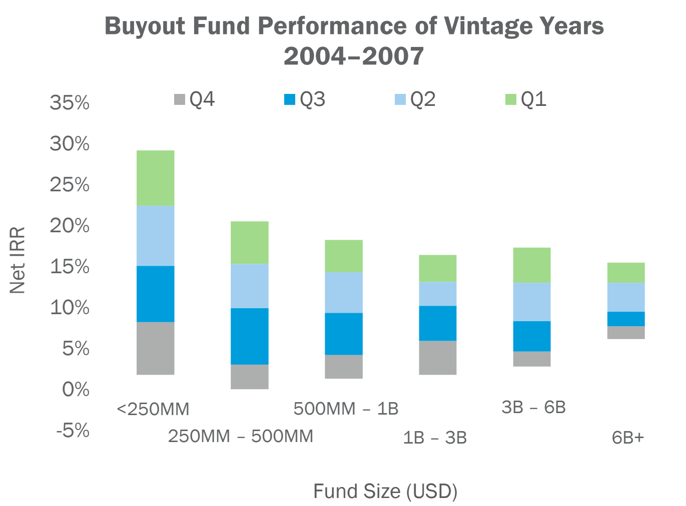

Figure 5. Source: Preqin as of March 31, 2018

Buyout funds raised in the four years prior to the global financial crisis (GFC, 2004-2007 vintage years) generally followed the same trend, although there was outperformance from the smallest size cohort. While the median performance was relatively consistent in funds $250 million and above, returns again compressed toward the median in larger funds (Figure 5). Returns in this time period were more narrow and consistent than the overall data set, which is counterintuitive to what would be expected in a market downturn and will be a focus of future analysis.

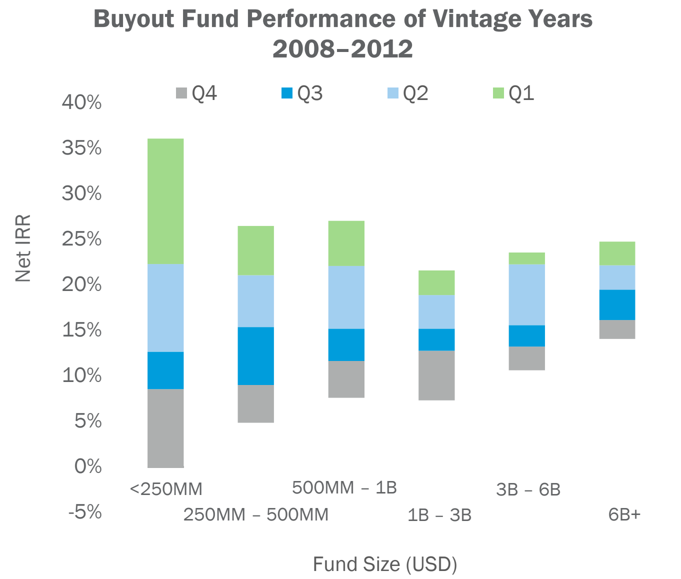

Figure 6. Source: Preqin as of March 31, 2018

Meanwhile, funds raised between 2008 and 2012 have generated materially higher returns (Figure 6), with a median net IRR of 15.1% compared to a median net IRR of 10.6% from funds raised in the prior four vintage years. Once again, substantially more volatility of returns was experienced from smaller fund sizes. While the median performance for funds $6 billion or above was higher than the other cohorts, Canterbury notes that the sample size is just 10 funds as less mega-funds were raised following the GFC.

Takeaways

— Fund size alone does not appear to have predictive power on performance. Buyout funds of all sizes have historically generated consistent median performance, although there is more volatility on both the upside and downside with smaller funds. Thus, a manager should not be rejected due solely to an increase to a certain size threshold. Large funds benefit from higher revenue from fees and carried interest which can provide better economics to the management team.

- An investor who desires less volatile, median buyout performance should consider allocating to a small number of larger funds. However, an effort to produce substantially above-median performance requires a focus on funds that are smaller in size. Manager selection is pivotal with smaller funds, as top-quartile managers can generate meaningful outperformance, while bottom-quartile managers can have a pronounced negative impact on a portfolio.
- Volatility decreases significantly in funds above $500 million, which is indicated by the decreased standard deviation of these funds. It would be recommended for investors who pursue funds below $500 million to invest in enough of these opportunities to appropriately diversify.
- While lower than the other years sampled (median net IRR of 10.6%), returns remained consistent in funds with vintage years between 2004 and 2007, which were investing leading up to and during the GFC. This is a compelling argument for allocating to buyout opportunities through all stages of the market cycle.
- From a macro perspective, the average size of funds has increased substantially through the years as private equity has comprised a more meaningful allocation of institutional portfolios. The average buyout fund raised between 1995 and 1999 was $807 million; this nearly doubled to $1.6 billion between 2013 and 2015. The median fund size experienced a similar increase, from $450.0 million to $804.5 million during the same time frame.

About Canterbury

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