CAN PRIVATE EQUITY IMPROVE OVERALL EQUITY PERFORMANCE?

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OVERVIEW

Private equity (PE) is simply financing provided to privately-held companies in return for an ownership interest in the company. The firms that provide this finance typically look to invest in young start-up companies or underperforming mature companies that have the potential for a turnaround. Usually the private equity firm works with the company's management to improve performance, operational efficiencies, and strategic direction.

In order to improve a company for eventual resale, private equity firms are generally long-term investors, typically investing in a company for around five to seven years. This means a commitment to build lasting and sustainable value in the businesses in which they invest. The only way to realize returns for investors is to sell a business in better shape than when it was acquired. Typically, firms will sell their stake in a company by listing it on the public markets or selling to a strategic buyer.

While J.P. Morgan's acquisition of Carnegie Steel is credited as being the first modern buyout, the first private equity firms are considered to be American Research and Development Corporation and J.H. Whitney & Company, both founded in 1946. Today the major private equity firms include KKR, the Carlyle Group, the Blackstone Group, TPG, Bain Capital and the Partners Group, just to name a few. The private equity market is estimated to be over $3 trillion. Last year alone, private equity firms raised investment capital totaling $486 billion . Investors include pension funds, endowments, and sovereign wealth funds. Due to the lack of liquidity and the size of the minimum investment, investing by individuals has been limited to the very wealthy.

To improve the value of a company, there are a number of strategies PE firms employ. The three main strategies are: 1) venture capital (VC), 2) growth equity, and 3) buyouts and distressed investing.

VC is high risk/high potential reward investing and the percentage of failures is very high. Venture capital is used for investments in early stage companies, including the seed stage (earliest stage) to the pre-IPO stage. VC firms invest in promising start-up companies with high growth potential that usually have a new technology or product.

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VC firms normally take a minority interest (10-30%) and fund the test of a concept, the launch of a business, or the expansion of an early-stage business.

Early-stage VC investors target companies that have some sort of management team in place, some level of product/market fit, and which have shown signs of early traction with their product. The capital will be used for product development and more sales and marketing. Late-stage venture investors will usually provide a second or third round of financing in order to fund production, sales, marketing, etc., so that the business can start "ramping" its revenue and expand to the next level. At the pre-IPO-stage, the PE firm provides a final round of financing to support the company throughout the phase leading to an initial public offering (IPO).

Growth equity firms differ from VC firms because they target more mature companies, usually with proven concepts/products that are generating significant revenue and are looking to grow their operations. Growth equity firms will not only provide financial capital, but also strategic guidance and operational support, so they can help the company grow and achieve its full potential. These PE firms will generally make minority equity investments and will let the current management team continue to run the business. The capital injection can be used to expand operations, develop a new product, finance an acquisition, or anything else. Many, if not most, companies here already generate revenue and are cash flow-positive—but they need additional funding to expand and hire more people.

Finally, buyouts and distressed investing fall into the later stage investment category. These involve mature companies that generate significant cash flow. While growth capital firms generate their returns by improving and growing businesses, buyout firms emphasize value creation through financial engineering and cost cutting. Unlike VC or growth capital, buyout firms acquire majority control—almost always 100% ownership. Acquisitions are made using both debt and equity, but the proportions can vary depending on the acquisition target, the market conditions, and the ability of the buyout firm to raise debt. The companies targeted by those firms must therefore generate stable operating cash flows. The buyout firm will use capital from one of the funds it has raised to provide the equity contribution, and will raise new debt to fund the rest of the purchase price.

Some other PE strategies include: mezzanine finance, real estate finance, and infrastructure finance.

Mezzanine PE Firms provide high-yield debt to reasonably mature companies that generally have positive earnings and cash flow, but that need additional risk capital. Mezzanine debt is a hybrid instrument which usually has an equity component (e.g. a warrant) attached. It can be used by a company for various purposes, such as expansion, as well as for financing in a leveraged buy-out (LBO).

Real Estate PE firms invest exclusively in properties, using debt and equity. They will typically focus on the riskier real estate investments and are therefore more similar to LBO funds than regular real estate investment firms.

Infrastructure PE firms invest in public infrastructure. They are particularly popular in emerging markets, since the demand for new infrastructure is so high there.

Regardless of which strategy a PE firm employs, it must have an exit strategy to earn a profit. Exit strategies include an IPO or a possible acquisition by another firm. PE firms need to evaluate which route will be the most profitable.

Like other investments, PE investing goes through cycles. In the 1980s, the first major boom in the industry took place with the rise of LBOs, financed by junk bonds. However, the LBO industry almost collapsed in the late 1980s and early 1990s because of the bankruptcy of a number of large buyouts and because the high-yield debt market experienced a slowdown.

The second major wave took place in the 1990s, when both VC and LBOs experienced a boom. This cycle ended with the bursting of the dot-com bubble at the end of the decade causing major losses for most players.

The third cycle took place from 2003 through 2007. The loose credit markets, low interest rates, and regulatory changes set the stage for the wave sometimes referred to as the "golden age of PE".

Today, the PE market is robust due in no small part to the distance from the financial collapse and three healthy years of equity returns. Capital raises for PE funds have been strong and growing.

Objective

The objective of this study is to examine whether investing in private equity could improve portfolio diversification and enhance performance. Research conducted by Harris et al (2013) found that private equity performance consistently exceeded that of the public markets. For this reason alone, we find it imperative to conduct the research. Unfortunately, benchmarking private equity performance is challenging. Some of the papers highlighting the problems include: Bailey (1992), Franzoni et al (2011), Phalippou, L (2005), Woodward (2004), and Gupta (2012). Without delving into all the various problems, I believe highlighting two of the main issues is instructive. First, making an assessment based on historical performance remains uncertain due to the uneven disclosure of returns and the quality of the data. Another area of concern is that benchmarking performance to assess the relative value of PE is hard to define. Both of these problems need to be overcome if we are to make an informed evaluation.

As mentioned earlier, although institutional investors have been investing in private equity for quite some time, individual investors have had limited opportunities Investors looking to invest in private equity have historically faced many hurdles including lack of transparency, unlimited leverage, high investment minimums (including long-term capital calls), concentrated holdings and no liquidity. While investors in many other investments can trade their positions, quarterly, monthly, or daily, private equity investors typically agree to lock-up their capital for a number of years. Because, most PE funds are structured as limited partnerships (LPs), taxes are reported on a K-1 instead of a 1099. The problem with a K-1 for many tax payers is that it delays tax reporting. However, the industry continues to evolve, and there are now options available with lower minimums and increased liquidity; therefore, we think it is important to assess the potential benefit.

Study

Despite the size of the private equity market and the large number of participants, tracking historical performance is tricky at best. A number of third party firms collect performance data but often the data set is incomplete, the sources are sometimes obscure, and they regularly do not disclose or collect fund cash flows, so the results inspire little confidence. However, research conducted by Harris et al worked to overcome this difficulty. With more robust data they divided the PE funds into two groups: buyouts and venture capital. But as we discussed earlier, simply looking at VC, early stage VC has a much different return and risk profile from end stage VC, so their research did little to overcome the benchmarking problem.

The goal of financial benchmarking is to measure comparative performance critical for investment allocation decisions. The process involves employing benchmarks as tools against which to measure the effectiveness of an investment strategy or adding an asset class. Benchmarking for traditional publicly quoted investments is a fairly straightforward process. The return statistics of securities and asset managers are compared against those of an appropriate index. There exists widely accepted return and risk measures and there are numerous market indices available for comparisons. However, in the case of private equity, there is no single ideal performance standard and there are hardly any investable indices. In other words, relative to traditional asset classes such as equities and fixed income, performance benchmarking in private equity is a more difficult proposition.

In an attempt to overcome this issue, we used Preqin's Private Equity database. Preqin is a global leader in alternative assets data. Preqin's database includes profiles for over 6,000 active LPs worldwide. It contains detailed information on over 90,000 venture capital deals globally. It has comprehensive information on over 43,000 buyout deals from around the globe. In addition, researchers can view and analyze performance metrics for over 7,600 named vehicles. Preqin breaks down its database into numerous asset classes, but for our purposes (explained below), we used the combined PE database. The data starts at the beginning of 2001 and goes through 2014.

Because most of the data in Preqin's database derives from sources in which we will not invest due to size and lack of liquidity, we further analyzed private equity using performance data from a fund that could be an investment opportunity for us. We chose the Partners Group Private Equity Fund because of its lower fees, five-years-plus track record, diversified portfolio, and low correlation to public equities. Since the fund invests in multiple PE asset classes, we thought it appropriate to use Preqin's combined PE database as the PE benchmark.

To analyze the merits of private equity, we replaced 5% of our equity allocation with private equity—first with Preqin's PE benchmark index and then with the Partners Groups actual fund . Since the majority of the fund is invested globally in smaller companies, we reduced our exposure in international small caps and emerging market equities to accommodate the PE allocation. To represent our equity positions we used well-known equity indices.

The resulting positions and their allocations were as follows:

	Equity Allocations without Private Equity	*Equity Allocations with Private Equity*
Int'l Dev Large Cap Stocks (MSCI EAFE Index)	7.87%	7.87%
Int'l Dev Small Cap Stks (MSCI EAFE Small Cap Index)	11.02%	8.52%
Emerging Market Stocks (MSCI Emerging Markets Index)	10.24%	7.75%
Domestic Large Cap Stocks (Russell 1000 Index)	56.70%	56.69%
Domestic Mid-Cap Stocks (Russell Mid Cap Index)	14.17%	14.17%
Private Equity (Preqin Index and Partners Group Fund)	0.00%	5.00%

We looked at numerous metrics, but for this paper, we included data on returns, standard deviation, and the Sharpe ratio. We think these statistics give a good illustration of the changes in performance. The returns highlight the change in gains and losses, the standard deviation highlights the change in risk as measured by overall volatility, and the Sharpe ratio provides data on the risk-adjusted returns. We have also included data on the upside/ downside capture ratios for the portion of the study where Preqin's data was replaced with the Partners Group's data to analyze the effect in different market conditions.

RESULTS

First, we looked at the monthly performance of the portfolio consisting of our benchmark indices and a portfolio of our indices with a 5% allocation to the Preqin PE Index, shown below in Exhibit 1.

Exhibit 1	*Total Ret Annlzd 3 Yr*	*Total Ret Annlzd 5 Yr*	*Total Ret Annlzd 10 Yr*	*Total Return 2001 to 2014*
Equities with Preqin PE Benchmark	17.06	12.61	7.48	6.23
Equities without Private Equities	9.38	9.44	5.66	6.14

[2.] The Fund invests through Partners Group Private Equity (Master Fund) LLC. The Fund is a closed-end management investment company and differs from open-end management investment companies (mutual funds) in that investors do not have the right to redeem their Units on a daily basis. While share redemptions occur every quarter, liquidity prior to the Fund's close is not guaranteed.

	Std Dev 3 Yr	Std Dev 5 Yr	Std Dev 10 Yr	Std Dev 2001 to 2014
Equities with Preqin PE Benchmark	9.51	13.41	15.48	18.06
Equities without Private Equities	9.66	12.50	16.40	18.81

	Sharpe Ratio 3 Yr	Sharpe Ratio 5 Yr	Sharpe Ratio 10 Yr	Sharpe Ratio 2001 to 2014
Equities with Preqin PE Benchmark	1.71	0.95	0.45	0.34
Equities without Private Equities	0.97	0.78	0.34	0.33

In all of the time periods studied, the addition of private equities enhanced returns, some by a wide margin. However, volatility results were mixed. In the 3-year time period and since inception the standard deviation was lower, but not statistically significantly lower. In the 5-year time period, the volatility increased by 91 basis points, but in the 10 year time period the volatility decreased by 92 basis points. The data therefore is inconclusive concerning risk; if anything the introduction of private equities may slightly lower overall risk.

Risk adjusted returns improved in all time periods, albeit only slightly for the entire period studied.

Now, let us look at the results of the comparison of the portfolio consisting of our benchmark indices versus a portfolio of our indices with a 5% allocation to the Partners Group Private Equity Fund. The data is shown in Exhibit 2 below.

Exhibit 2	Total Ret Annlzd 3 Yr	Total Ret Annlzd 5 Yr	Total Ret Jan 2010 to Jun 2015
Equities with Partners Group Private Equities	15.32	14.62	11.93
Equities without Private Equities	15.05	14.24	11.47

	Std Dev 3 Yr	Std Dev 5 Yr	Std Dev Jan 2010 to Jun 2015
Equities with Partners Group Private Equities	8.06	12.43	13.08
Equities without Private Equities	8.45	13.08	13.73

	Sharpe Ratio 3 Yr	Sharpe Ratio 5 Yr	Sharpe Ratio Jan 2010 to Jun 2015
Equities with Partners Group Private Equities	1.81	1.16	0.92
Equities without Private Equities	1.70	1.08	0.86

The Partners Group Private Equity Fund (Partners Fund) commenced in January of 2010; therefore, the length of time studied in this analysis is shorter. For each of the time periods highlighted, 3 years, 5 years, and since inception, the returns for the portfolio with the Partners Fund were higher, albeit only slightly. Contrary to the results of the previous study, the standard deviation was lower by a meaningful amount in each of the periods, revealing lower portfolio volatility due to the inclusion of the Partners Fund. These results are due to the low volatility of the Fund in general and the low correlation the fund has to other equity asset classes. Since inception, the fund has exhibited a volatility of 4.2% versus the S&P 500's 12.9%, and the beta of the fund is only .14. The correlation to the S&P 500 is only .44. Consequently, the risk-adjusted returns, elucidated by the Sharpe ratio, were higher in each period.

Finally, we looked at the upside and downside capture ratios of the equity portfolio without the Partners Fund and with the Partners Fund. The upside/downside capture ratio measures whether the portfolio outperforms the broad market during periods of market strength and weakness. The S&P 500 was used as the benchmark for the comparison since it is the most widely followed equity index. The results of the study are shown below in Exhibit 3.

Exhibit 3	*Upside Capture Ratio 3 Yr*	*Upside Capture Ratio 5 Yr*	*Downside Capture Ratio 3 Yr*	*Downside Capture Ratio 5 Yr*
Equities with Partners Group Private Equities	90.65	93.82	94.45	107.93
Equities without Private Equities	91.97	95.95	102.57	116.69

The results are interesting because they indicate that the addition of the Partners Group Private Equity Fund detracts only slightly from returns versus the portfolio without Private Equity when the S&P 500 strong; however, when the market is weak, the benefit of including the Private Equity Fund is considerable.

CONCLUSIONS

This paper analyzes the potential benefits of adding private equity to an equity portfolio. To produce a reliable study we had to overcome some of the common challenges. By using Preqin's database, we believe we have obtained a reliable source to benchmark private equity performance. By using the Partners Group actual performance, we overcame the issue of relative performance by analyzing exactly how the addition of private equity would have changed performance.

The study including the Preqin data showed how private equity was additive to equity returns. The effect on volatility was negligible, but as a result, risk-adjusted performance benefited by private equities inclusion.

The results using the actual performance of the Partners Group Private Equity Fund, were little different. Equity returns were enhanced, but not by as much as in the previous study. However, because of the low volatility and the low correlation of the Partners Group's returns with that of other equity asset classes, the overall volatility was reduced significantly. Again, like the first study, the risk-adjusted returns were improved with the inclusion of private equity.

The results show the advantage of broadening the equity diversification with the inclusion of private equity. However, as mentioned earlier, individual investors have historically faced many problems trying to invest in this asset class. Thankfully, private equity's maturation has spurred (and will continue to spur) funds, like the Partners Group, to be developed, which address many of these obstacles. This evolution will allow for wider distribution, enabling more investors to share in the benefits.

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