Current research in private equity
– a short review -

I. The performance of private equity – research insights

The performance of private equity is a puzzle for investors and researchers. The private equity industry has long stated that its returns will exceed market returns in the long run. Additionally, it is often claimed that private equity returns do not correlate strongly with business cycles and stock-market returns. The results of empirical research are mixed, in both regards.

It comes as no surprise that the returns across funds and time vary considerably. Kaplan and Schoar find that on average, over the entire sample period (1980 to 1997), average fund returns net of fees are roughly equal to those of the S&P 500.[1] LBO fund returns net of fees are slightly less than those of the S&P 500. VC fund returns are lower than the S&P 500 on an equal-weighted basis, but higher than the S&P 500 on a capital weighted basis. These results combined with previous evidence on private equity fees, however, suggest that on average, both types of private equity returns exceed those of the S&P 500 gross of fees.

Funds and partnerships that are raised in boom times are less likely to raise follow-on funds, suggesting that these funds perform worse. This suggests a boom and bust cycle in which positive market-adjusted returns encourage entry, which leads to negative market-adjusted returns, etc. This suggestion is supported by a large variation in returns depending on the vintage year of the fund (see Figure 1).

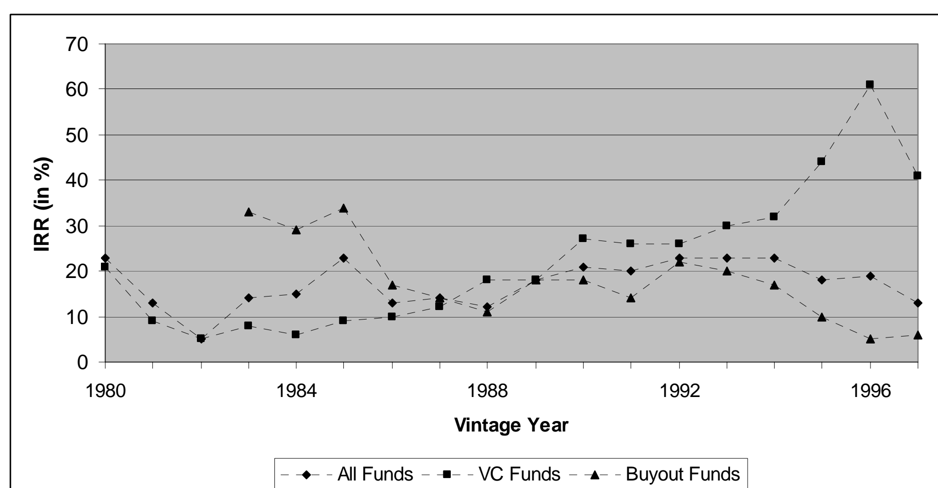

Figure 1: Private Equity Returns by Vintage Year[2]

Gottschalg, Phalippou and Zollo evaluated the influence of business cycles and stock-market cycles on PE performance and found two dominant effects.[3] First, PE performance is higher when investments are exited in periods of high valuation levels on public stock-markets, as proxied by the overall earning to price ratio. Second, PE funds are exposed to substantial left tail risk. That is, they deliver significantly higher losses during large market downturns but are not as sensitive to

[1] Private Equity Performance: Returns, Persistence and Capital Flows, Steven Kaplan and Antoinette Schoar, Journal of Finance, forthcoming.

[2] Source: Venture Economics.

[3] Performance of Private Equity Funds: Another Puzzle?, Oliver Gottschalg, Ludovic Phalippou and Maurizio Zollo, INSEAD 2004.

economic conditions in good times. In addition, the average level of credit spreads, public market performance and GDP during the investment phase are also all significantly related to PE performance. The relationship between fund performance and each of these variables indicates that PE performance is significantly pro-cyclical, which is an unattractive property.

Gottschalg, Phalippou and Zollo estimate the beta of funds is about 1.6 given both the industry in which PE funds invest and the typical amount of leverage for buyout deals. Cochrane estimated the beta for VC funds at 1.7.[4] These average betas are found to be significantly positively related to performance. This stresses that PE investments are exposed to non-negligible risks that should command a premium over public market investments rather than a discount.

A variety of factors influence fund performance. Performance tends to increase with fund size. The evidence on this, however, is not clear. Some studies have found a concave relation with fund size, suggesting decreasing returns to scale. Between 1980 and 1997, on average, the top performing funds grew proportionally slower than the lower performing funds. This raises interesting questions for the new "superfunds" currently being raised.

Fund performance also tends to increase with the general partners' (GPs) experience. Substantial persistence in fund performance has been found both for LBO and VC funds. GPs, whose funds outperform the industry in one fund, are likely to outperform the industry in the next and vice versa. Performance persistence can not only be found between two consecutive funds, but also between the current fund and the second previous fund. These findings are markedly different from the results for mutual funds, where persistence has been difficult to detect and, when detected, tends to be driven by persistent underperformance rather than over-performance. Limited partners have recognized this. GPs with well-performing funds are typically oversubscribed.[5] GPs with a lacklustre performance are having problems raising new funds. This is especially true for European VCs.

Location also plays a part in fund performance. European-based private equity funds outperformed US funds during the 1990s. Possible reasons for this are less competition for deals, better deals due to Europe's relative inefficiency and structural problems in the economy. European venture funds, however, have significantly underperformed US venture funds.

According to a new paper by Lerner, Schoar, and Wong, the returns that institutional investors realize from private equity differ dramatically across institutions.[6] On average, endowments' average annual returns from private equity funds are nearly 14% greater than the average investor. Funds selected by investment advisors and banks lag sharply (see Table 1).

	Overall	Early-stage VC	Later-stage VC	Buyout
Public pension funds	7,61%	12,12%	10,80%	3,22%
Corporate pension funds	5,07%	9,38%	10,94%	0,35%
Endowments	20,47%	34,65%	19,32%	0,08%
Advisors	-1,79%	-0,51%	-1,03%	-4,35%
Insurance companies	5,47%	2,57%	12,25%	-0,64%
Banks and finance companies	-3,17%	-13,93%	1,04%	-2,23%
Other investors	4,81%	-6,79%	17,81%	-2,27%
Overall	**6,88%**	**12,84%**	**9,41%**	**0,41%**

[4] The Risk and Return of Venture Capital, John Cochrane, Working paper, University of Chicago 2003.

[5] See, for example, the Benchmark Europe II.

[6] Smart Institutions, Foolish Choices?: The Limited Partner Performance Puzzle, Josh Lerner, Antoinette Schoar, and Wan Wong, Harvard University, National Bureau of Economic Research and Massachusetts Institute of Technology, 2004.

Table 1: Fund IRR by class of LP and by fund type

It is still unclear whether endowments and public pension funds generate higher returns because they are more experienced in selecting GPs, or whether it is a historical accident i.e., that these limited partners (LPs) through their early experience as limited partners may have greater access to established private equity groups that manage high performing funds. Early research shows that the advantage of endowments and public pension funds tend to decrease with new GPs, but they are still statistically significant.

Interestingly, endowments and public pension funds generally are much less likely to reinvest in a given partnership. Moreover, those LPs are better at forecasting the performance of follow-on funds. Funds in which endowments (and to a lesser extent, public pension funds) decided to reinvest show much higher performance than those where endowments decided not to reinvest. Other LP classes do not display these performance patterns. These findings suggest that endowments proactively use the information they gain as inside investors, while other LPs seem less willing or able to use information they obtained as an existing fund investor.

In conclusion, the findings on return, correlation with equity markets and risk beg the question whether LPs have mispriced private equity as an asset class. This asset class is relatively new, research is difficult, uncertainty is very high, and payoffs so skewed that even sophisticated investors may be prone to over-optimism or evaluation mistakes. The fee structure of private equity funds is such that LPs may additionally underestimate the impact of fees when deciding to invest in private equity. What research does definitely show, is that returns vary strongly between funds. Active LPs (as demonstrated by the endowments) are able to impact the performance of their funds by monitoring and making shrewd reinvestment decisions.

II. Creating value in a maturing buyout market

Making money in private equity is becoming more difficult. The amount of money pouring into private equity as an asset class is increasing. Ever more money is chasing fewer deals. The largest deals are in short supply and virtually always involve auctions among the large funds. Mid-sized deals are more common and diverse, allowing a larger number of funds to be a potential buyer. The mid-sized deals, however, are increasingly being sold via auctions. Proprietary deals have become rare. These trends push up the prices for companies, making it harder for the funds to reach their expected returns. The source of returns is shifting from financial engineering to true operational improvements.

In a recent paper, Berg and Gottschalg identified six levers which provide a useful framework GPs can use to identify sources of value creation:[7]

Lever	Sub-Lever	
A. Financial arbitrage	A.1	… based on changes in market valuation
	A.2	…based on private information about the portfolio company
	A.3	…through superior market information
	A.4	…through superior deal-making capabilities
	A.5	…through an optimisation of corporate scope
B. Financial engineering	B.1	Optimising the capital structure
	B.2	Reduced corporate tax
C. Increasing operational effectiveness	C.1	Removing managerial efficiencies
	C.2	Reducing capital requirements

[7] Pulling the right levers, Achim Berg and Oliver Gottschalg, Germany Report 2004, Inititative Europe.

	C.3	Cost cutting and margin improvements
D. Increasing strategic distinctiveness	D.1	Corporate refocusing
	D.2	Buy-and-build strategies
E. Reducing agency costs	E.1	Reducing agency cost of free cashflows
	E.2	Improving incentive alignment
	E.3	Improving monitoring and controlling
F. Parenting effect	F.1	Restoring entrepreneurial spirit
	F.2	Advising and enabling

In the past, most funds focused on financial arbitrage and financial engineering, higher incentives for the management, together with the reduction of capital requirements and cost-cutting (levers A, B, C and E above). Rising stock markets made buy-and-hold strategies, coupled with de-leveraging, profitable. Nowadays, with competitive bidding driving up the prices and financial engineering skills increasingly turning into a commodity, earning the returns LPs demand is becoming more difficult. Additionally, routine sellers of companies or business units are becoming more experienced in dealing with private equity funds. An increasing part of the value which funds would have gained a few years ago may now be realized by the seller, while preparing a division for a spin-off.

The value generation levers, which are becoming more important, place high demands on the funds' GPs. They all depend on the GPs' characteristics and skillset, making it important who undertakes the buyout. For the traditional value levers this was less important. This shift has fundamental implications for the funds' managers, who are competing for deals. Buyout funds need to analyse, for a given deal, which sources of value generation offer the greatest potential. This analysis needs to be matched with an honest analysis of the fund's strengths, especially whether the fund has a competitive advantage over other funds in a given area. This may be an industry, a region, or one of the levers mentioned above. Some large buyout firms are already claiming to specialize in certain industries or types of deals.

The proprietary knowledge required to maximize returns in a given deal may well lead to the formation of two distinct types of funds. First, the large, international, buyout funds which are able to collect the vast amounts of capital required to complete large deals. These funds will be competing in a market where auctions set the prices, and preferential access to capital generates the returns. Most of the value generation in a deal will be front-loaded. Second, the smaller, focused funds which use industry and operational experience to acquire smaller targets and create real value in the company. In this segment, the value creation will be back-loaded, with a lesser degree of financial engineering and transaction structuring. The question most funds have yet to answer is where they will position themselves in the future.

III. About the author

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Jan Miczaika is a research assistant with the Chair for Entrepreneurship at the WHU – Otto Beisheim Graduate School of Management in Vallendar, Germany. His research areas include entrepreneurial finance, buyouts and corporate governance. He is also one of the partners of Advisoria, a management consulting company.

In his dissertation (in progress), Jan explores how value can be generated in buyouts following the transaction. Preliminary results show a fundamental dichotomy between two types of buyouts: 1. highly leveraged "efficiency" buyouts, with a focus on reducing expenses, divesting assets and decreasing working capital and 2. "entrepreneurial" buyouts, with a focus on realizing additional market potential. The continuing research will try and evaluate, using empirical data, how value is created in the different types of buyouts. The goal is to create a competitive advantage for private equity firms, which are faced with rising prices for target companies.

Short vita: Jan studied Business Administration in Marburg, Kuala Lumpur and at the Handelshochschule Leipzig (HHL). During his studies he focused on strategic management, organizational theory and financial and managerial accounting. During this time Jan worked at a variety of startups and established companies, including 3i, AXA Private Equity, datango, MUNDWERK and the General Motors Acceptance Corp.