



Investing in Private Equity or Not

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Main reasons invoked to invest in PE

- ▣ Performance
 - ▣ I need high return, PE will deliver that
 - ▣ I am patient
 - ▣ with PE I can capitalize on that and earn a liquidity premium
 - ▣ Yale envy
 - ▣ Top quartile returns are exceptional and there is persistence
 - ▣ Brings me diversification
- ▣ Incentives are well aligned with the money manager

Recent evidence on performance



- Took about thirty years for first large-scale academic study of PE investor returns
- Using a similar dataset from Thomson Venture Economics, first Kaplan and Schoar (2005) and then Phalippou and Gottschalg (2009) found that the average buyout fund had underperformed the S&P 500. Different conclusion from what was advertised by the industry using the exact same data!
- The quality of this database has now come into question:
 - Robinson and Sensoy (RS, 2011), Harris, Jenkinson and Kaplan (HJK, 2012) and Higson and Stucke (HS, 2012) have access to up-to-date and apparently better quality data. They find that **the average buyout fund has outperformed the S&P 500**

The \$1 million question



Which asset class has NOT outperformed the S&P 500 over the past 15 years?

- ▣ Real estate?
- ▣ Gold?
- ▣ Bonds?
 - ▣ Treasury, investment-grade, junk ones?
- ▣ Wine?
- ▣ Art?
- ▣ Cash?
- ▣ Most of the listed stocks in the US and Europe?
- ▣ Emerging market stocks?
- ▣ Small stocks?
- ▣ Mid-cap stocks?
- ▣ Value stocks?

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Performance of Buyout Funds Revisited?*

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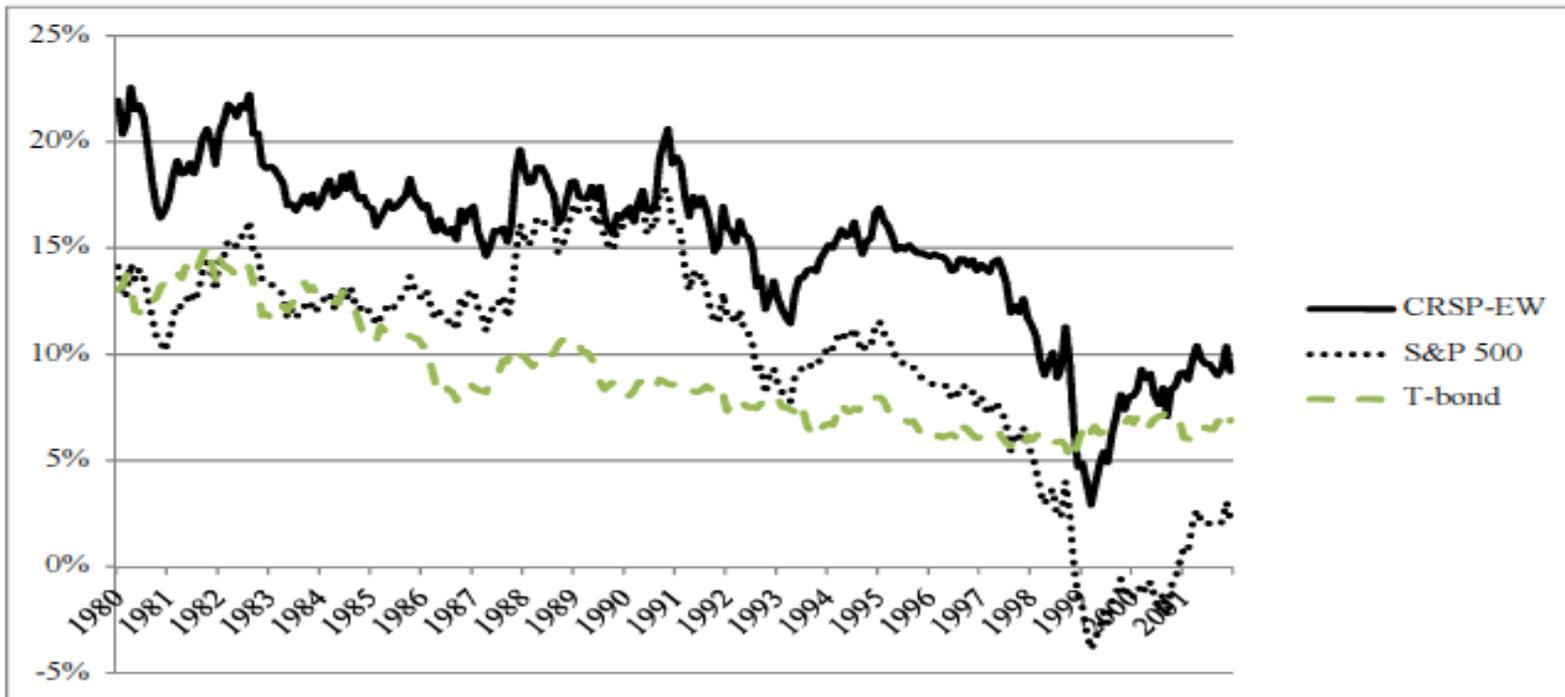
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Abstract. This article shows that publicly available data on buyout fund returns are sufficient to replicate the recent findings derived from superior but proprietary datasets. The average buyout fund outperforms the S&P 500. However, this study shows that buyout funds mainly invest in small and value companies; and the average buyout fund return is similar to that of small-cap indices and that of the oldest small-cap passive mutual fund (“DFA micro-cap”). If the benchmark is changed to small and value indices, and is levered up, the average buyout fund underperforms by 3.1% p.a.

Poor S&P 500 index

Figure 2: Annualized Ten Year Forward Looking Moving Average Returns

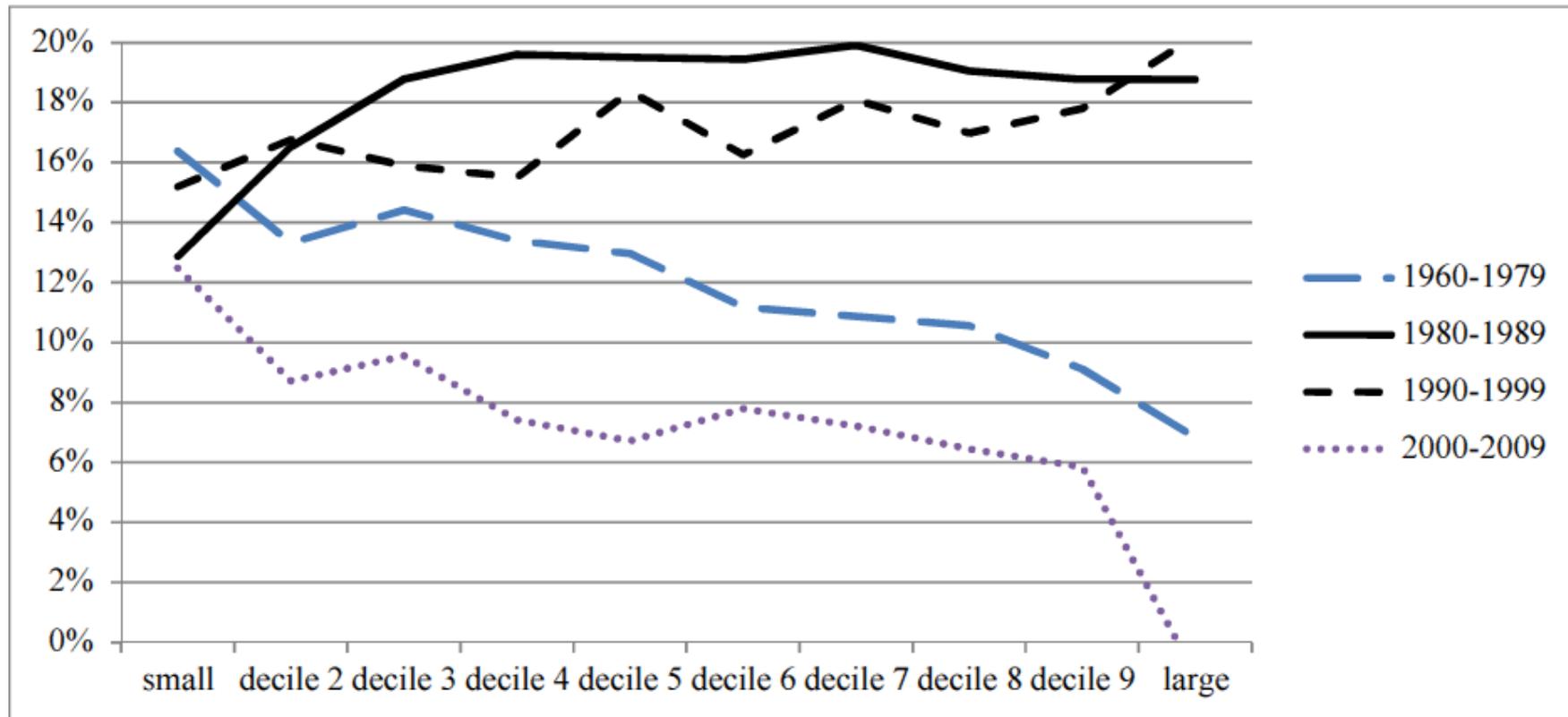
Each point is calculated as the average monthly return over the next 120 months. The average monthly return is annualized. Data are from January 1980 to December 2011. The ten year forward-looking moving average is thus from January 1980 to December 2001. The CRSP equally-weighted index measures the return of the average US stock (CRSP-EW). CRSP-EW and S&P 500 returns are obtained from WRDS (Select CRSP dataset, Index/S&P 500 indexes, monthly, returns include distributions). 10 year Treasury bond monthly returns are also obtained from WRDS (select CRSP dataset, Index/Treasury, annual frequency, return, 10 year bond).



The size premium is back

Figure 1: Annualized average value-weighted return of the Fama-French size portfolios

This figure plots the average monthly return (annualized) of the ten size-deciles portfolios of Fama-French. The data is broken down by time periods: 1960-1979, 1980-1989, 1990-1999, 2000-2009. Source: Ken French website.



PE investments are small

- Is the S&P 500 the right benchmark? Is any value-weighted benchmark right?
- Capital IQ data: 95% of the enterprise values reported for leveraged buyout transactions are below \$1,175 million.
- Largest stock in the third smallest size-decile of the ten size-based portfolios of Fama-French has a market capitalization of \$1,090 million → Enterprise value > \$1,175
- ➔ 95% of leverage buyout investments would fall in the first three size-deciles of Fama-French.

NB: Largest ever transaction TXU, was a take-private listed equity; it was the 120th largest market cap pre-announcement

Small cap benchmarks



Benchmark	Mutual funds		CRSP		Fama-French			
	Vanguard S&P 500	DFA Micro-cap	US stock-market indices Value weighted	Equally weighted	Decile 1	Decile 3	Decile 5	Decile 10
Mean	1.20	1.04	1.19	1.03	1.02	1.01	1.03	1.23
Median	1.13	0.99	1.12	0.99	0.98	0.96	0.98	1.16
Std-error	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<i>t</i> -stat	8.62	1.83	8.21	1.53	1.12	0.52	1.32	9.69

- . A PME of one indicates equal returns.
- . Use of mutual fund data avoids issues with small stock return measurement biases.
- . DFA micro-cap has \$3.6 billion asset under management and max market cap is \$1,130 (higher than 95th largest PE transaction)

More? Adjusting latest NAV



Panel A: Change last reported NAV to 90% of reported value

Benchmark	Mutual funds		CRSP		Fama-French			
	Vanguard S&P 500	DFA Micro-cap	US stock-market indices Value weighted	Equally weighted	Decile 1	Decile 3	Decile 5	Decile 10
Mean	1.15	0.99	1.13	0.99	0.98	0.97	0.98	1.18
Median	1.07	0.94	1.06	0.93	0.92	0.90	0.93	1.10
Std-error	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<i>t</i> -stat	6.33	-0.40	5.91	-0.74	-1.10	-1.69	-0.83	7.43

- . Average discount on the secondary market for buyout fund stakes was 25%
- . A 10% discount is enough to bring PE returns below benchmark

Yet more? Adjusting beta



Panel B: Change beta to 1.3 (from 1)

Benchmark	Mutual funds		CRSP		Fama-French			
	Vanguard S&P 500	DFA Micro-cap	US stock-market indices		Size decile portfolios			
			Value weighted	Equally weighted	Decile 1	Decile 3	Decile 5	Decile 10
Mean	1.17	0.99	1.16	0.97	0.99	0.96	0.97	1.22
Median	1.11	0.94	1.10	0.93	0.92	0.92	0.92	1.14
Std-error	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
<i>t</i> -stat	7.48	-0.31	6.93	-1.43	-0.49	-2.19	-1.42	8.78

Panel C: Change beta to 1.5 (from 1)

Benchmark	Mutual funds		CRSP		Fama-French			
	Vanguard S&P 500	DFA Micro-cap	US stock-market indices		Size decile portfolios			
			Value weighted	Equally weighted	Decile 1	Decile 3	Decile 5	Decile 10
Mean	1.16	0.98	1.15	0.94	0.98	0.94	0.95	1.21
Median	1.10	0.93	1.09	0.90	0.90	0.90	0.90	1.14
Std-error	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03
<i>t</i> -stat	6.96	-1.13	6.33	-2.93	-0.84	-3.37	-2.72	8.38

Why are investors feeling otherwise?



An investor recently came out of the closet saying “WE HAVE MET THE ENEMY... AND HE IS US”

- “Investment committees and trustees should shoulder blame as they have created the conditions for the chronic misallocation of capital. In particular, we learned that investment committees and trustees
 - Make investment decisions based on seductive narratives such as quartile performance, which rely heavily on IRR measures that often are misleading
 - Fail to judge investments in VC against returns from small cap stocks.”

- Source: Kauffman foundation report

Earning a liquidity premium



- It is not because something is illiquid that it will deliver you a liquidity premium
- If I start a PE fund tomorrow and just buy and sell public equity, you won't earn a premium with me even though I can make your investment very illiquid
- The idea is that if there is added value by the fund manager then she should share some of it with me because I provided the liquidity
- It boils down to a supply/demand story
- If plenty of investors are patient, no liquidity premium will be paid

Where are the LP yachts?

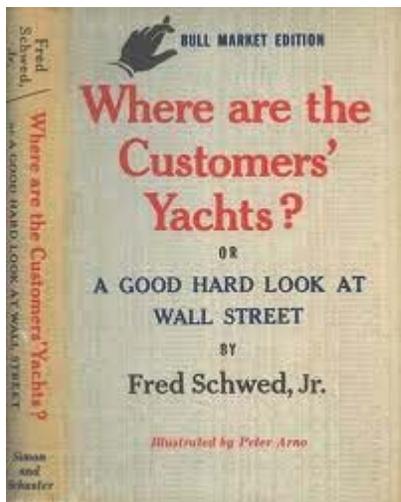


Once in the dear dead days beyond recall, an out-of-town visitor was being shown the wonders of the New York financial district. When the party arrived at the Battery, one of his guides indicated some handsome ships riding at anchor. He said,

“Look, those are the bankers’ and brokers’ yachts.”

“Where are the customers’ yachts?” asked the naïve visitor.

--Ancient story



The yacht is called Yale



- *Institutional Investor*, on November 4th, 2009: “The success of Harvard and Yale attracted imitators. After suffering endowment losses in 2001 and 2002, smaller schools looked to their Ivy League idols for guidance on bulletproofing their portfolios. **“Alumni called me up and said, ‘We’re going to be just like Yale, right?’”** recalls the CIO of one midsize endowment fund. As a result, many small schools crowded into hedge funds and private equity.” As this quote suggests the perceived
- *The Economist*, on March 10th 2011, began an article on private equity investing as follows: “There can be fashions in investing as well as in the arts. Over the past 25 years many university endowments have moved over to the “Yale model”, ...Under the leadership of David Swensen, Yale has invested across a wide range of “alternative assets”, from private equity and hedge funds to timber. The model has worked very well over the long run, for Yale at least. **The university’s private-equity assets have produced an annualised return of 30.4% since inception.”**

Is that human?



Table 1: Yale endowment track record

Annual report for the year	Annualized return in private equity since inception	Annualized return in private equity over the past ten years	Expected return
2000	34.1%	37.9%	12.5%
2001	32.9%	35.3%	12.5%
2002	31.4%	36.9%	12.0%
2003	30.7%	36.0%	11.4%
2004	30.6%	37.6%	11.4%
2005	31.0%	39.5%	11.4%
2006	30.6%	33.9%	11.4%
2007	31.4%	33.9%	11.2%
2008	30.9%	35.9%	11.2%
2009	30.4%	25.8%	11.0%
2010	30.3%	06.2%	10.5%

Source: Yale Endowment Annual Reports

Internal Rate of Return



Why do I love you so much?

You like?



	Cost	Distributed	Net cash flow
1990	100	0	-100
1991	100	0	-100
1992	100	0	-100
1993	100	225	125
1994	100	225	125
1995	100	225	125
1996	100	225	125
1997	100	225	125
1998	100	225	125
1999	100	225	125
2000	100	225	125
2001	100	225	125
2002	100	225	125
2003	100	225	125
2004	100	225	125
2005	100	225	125
2006	100	225	125
2007	100	1000	125
	1800	4150	31%

And what about this?



	Cost	Distributed	Net cash flow
1990	100	0	-100
1991	100	0	-100
1992	100	0	-100
1993	100	0	-100
1994	100	500	400
1995	100	500	400
1996	100	500	400
1997	100	35	-65
1998	100	35	-65
1999	100	35	-65
2000	100	35	-65
2001	100	35	-65
2002	100	35	-65
2003	100	35	-65
2004	100	35	-65
2005	100	35	-65
2006	100	35	-65
2007	100	35	-65

And what about this?



	Cost	Distributed	Net cash flow
1990	100	0	-100
1991	100	0	-100
1992	100	0	-100
1993	100	0	-100
1994	100	500	400
1995	100	500	400
1996	100	500	400
1997	100	35	-65
1998	100	35	-65
1999	100	35	-65
2000	100	35	-65
2001	100	35	-65
2002	100	35	-65
2003	100	35	-65
2004	100	35	-65
2005	100	35	-65
2006	100	35	-65
2007	100	35	-65
	1000	1885	

And what about this?



	Cost	Distributed	Net cash flow
1990	100	0	-100
1991	100	0	-100
1992	100	0	-100
1993	100	0	-100
1994	100	500	400
1995	100	500	400
1996	100	500	400
1997	100	35	-65
1998	100	35	-65
1999	100	35	-65
2000	100	35	-65
2001	100	35	-65
2002	100	35	-65
2003	100	35	-65
2004	100	35	-65
2005	100	35	-65
2006	100	35	-65
2007	100	35	-65
	1000	1885	31%

New Haven Dreamin'?



Phalippou, 2013, 'Yale's Endowment Returns: Case Study in GIPS Interpretation Difficulties', Journal of Alternative Investments.

- Someone earning 30% p.a. over 38 years would have multiplied her money by 24,000 !!!!
- A monkey who would have started to invest into VC funds in early 1990s would have the exact same track record
- In 20 years time, the since inception return of Yale will still be 30% p.a.
- To be able to judge, Yale should show results for VC and BO separately and/or show their multiple ... but it does not!

IRR vs Multiple: A practical example



(Extract from *Financial Times*, 2002): “Rival private equity firms have challenged claims by Guy Hands, the financier who is taking himself independent from Nomura at the end of March, about his performance record. (...) The debate highlights the lack of transparency in the private equity industry and the difficulty of making clear comparisons. (...)”

On the nine investments made since 1995, Mr Hands shows a gross annual IRR of 62 per cent, and returned a multiple of 2.1 times on the initial investment capital. These figures are before fees. Rivals do not dispute that the IRR is strong - though not the highest - but they challenge the competitiveness of the multiple, another measure to which investors look. "His multiple is surprisingly low”.

Investors look at investment records in terms of multiples as well as IRRs. "Over the life of a fund, we regard an acceptable multiple as three times, or 2.5 times after carried interest (share of the profits) and fees.” Mr Hands is trying to raise Euros 3bn. It is the most ambitious fund raising exercise in terms of the target.

Silly benchmarking using IRR



- Using industry benchmarks for each vintage year
 - Recommended by Global Investment Performance Standards (GIPS)
- Misleading and imprecise
 - E.g. Find 8% alpha per year in example below while there is no alpha

Panel A: The industry cash flows

	2006	2007	2008	2009	IRR
2006 vintage year	-1000	500	500	500	23%
2007 vintage year	0	-500	250	250	0%
Overall	-1000	0	750	750	18%

Panel B: The investor cash flows

	2006	2007	2008	2009	IRR
2006 vintage year	-100	150	0	25	60%
2007 vintage year	0	-150	75	50	-12%
Overall	-100	0	75	75	18%

The panacea of top quartile investing



- ▀ Typical response at this stage of the presentation: “Fine, so average is not very good. But we all know that. It has always been argued that the only PE funds worth investing are the top quartile funds and their returns are great.”
- ▀ And the good news is that I only invest in top quartile funds and there is performance persistence in PE



Another \$1 million question

- Do you know of an asset class in which the top quartile is NOT doing great?
 - Real estate?
 - Wine?
 - Art?
 - Listed equity US/Europe?
 - Emerging market stocks?
 - (leveraged?) mutual funds?
 - ETFs?
 - Hedge funds?
- 

The panacea of top quartile investing

- *Typical response at this stage of the presentation: “Fine, so average is not very good. But we all know that. It has always been argued that the only PE funds worth investing are the top quartile funds and their returns are great.”*
- Typical response at this stage of the presentation: “Fine, but top quartile funds are easily identifiable in PE. Any experienced investor can do that.”
- Response to the response:
- Really ???!
- Can I have the list of the dummies investing in PE?
- I need names of 75% of all the investors – it is a lot of people!
- Alternatively, could it be that top quartile funds are easy to identify because...
 - **They all say they are !!**
 - In fact, the rhetoric is: if it is top quartile it will stay so. Since all PE firms are top quartile, that makes it for great marketing... but maybe poor finance

Myth of performance “persistence”



- Researchers found that two successive funds have positively correlated returns (NB: stronger in VC than Buyouts)
 - Consultants and PE community embraced this result:
 - “Although average performance is not good, you can get high returns if you select top quartile funds because their performance is persistently good.”
 - But:
 - This research finding is not a tradable strategy
 - Evidence shows no way to identify persistence in advance
 - Everyone is top quartile (because of data issues)!
- ➔ Some aspects of past performance may be informative and should be part of the selection process
BUT - simply knowing past performance is not helpful for fund selection

Estimating Private Equity Returns from Limited Partner Cash Flows

Andrew Ang, Bingxu Chen, William N. Goetzmann, and Ludovic Phalippou*

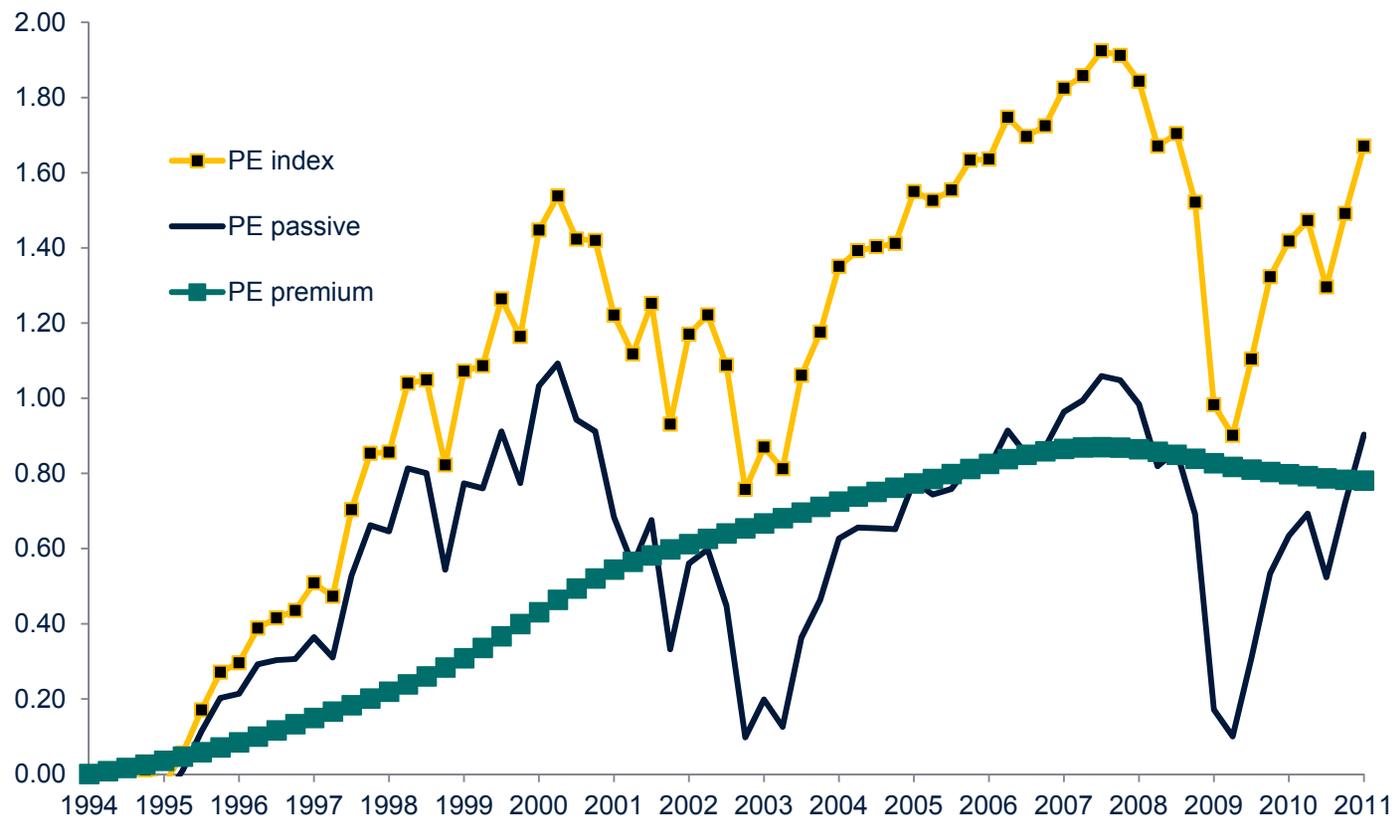
November 25, 2013

We introduce a methodology to estimate the historical time series of returns to investment in private equity. The approach is quite general, requires only an unbalanced panel of cash contributions and distributions accruing to limited partners, and is robust to sparse data. We decompose private equity returns into a component due to traded factors and a time-varying private equity premium. We find strong cyclicity in the premium component that differs according to fund type. The time-series estimates allow us to directly test theories about private equity cyclicity, and we find evidence in favor of the Kaplan and Strömberg (2009) hypothesis that capital market segmentation helps to determine the private equity premium.

Our index, (levered) stock-market and the PE premium



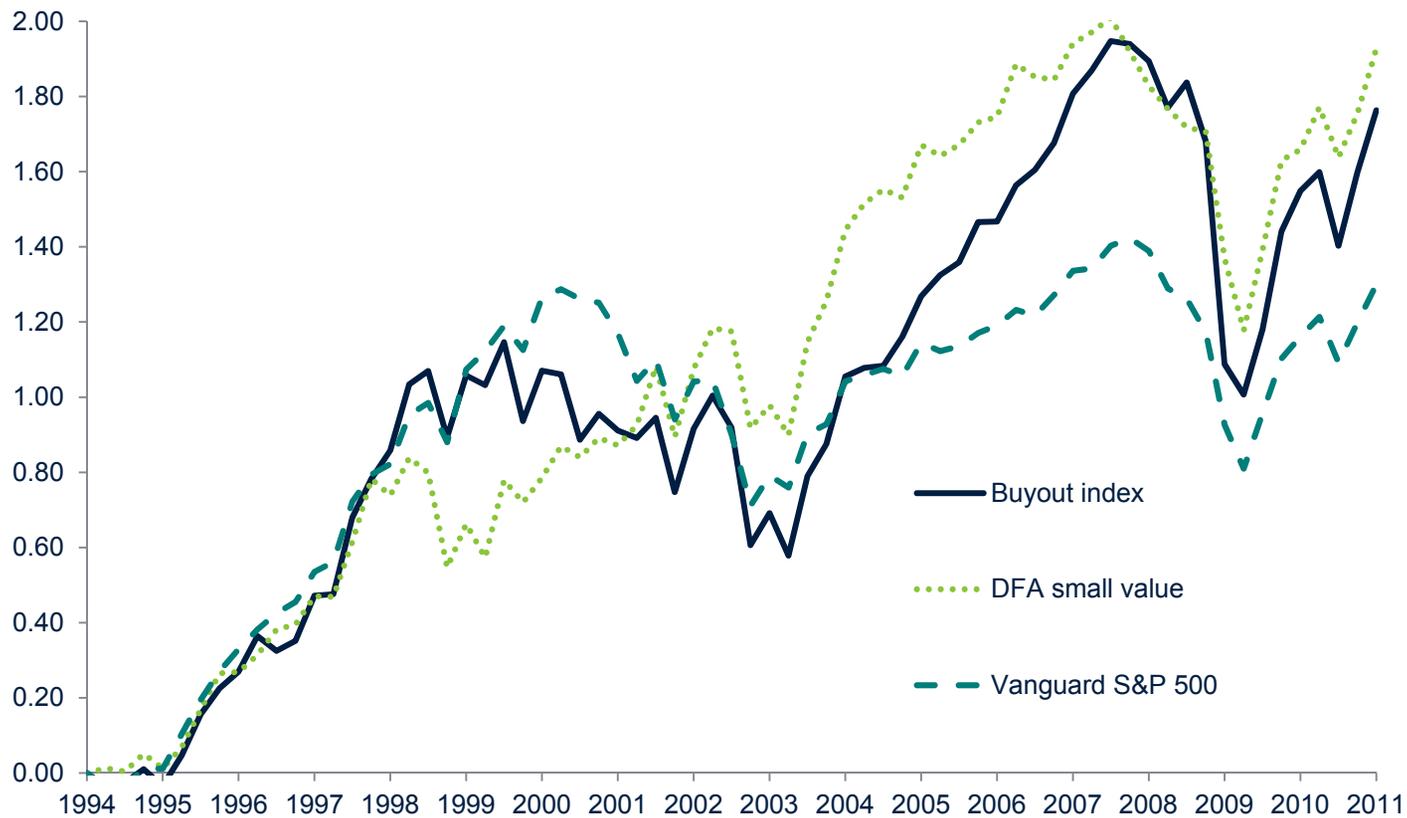
(log) index value



Buyout index vs S&P 500 and DFA small-value



(log) index value



PE premiums (~ PE alphas)



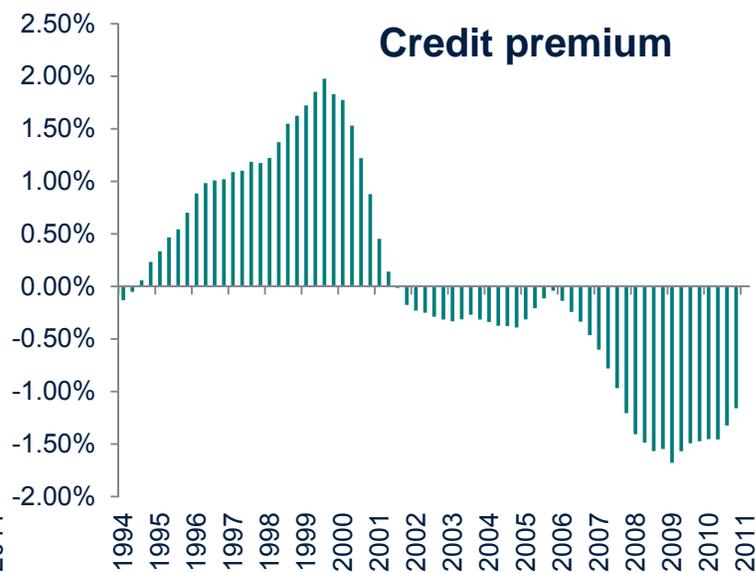
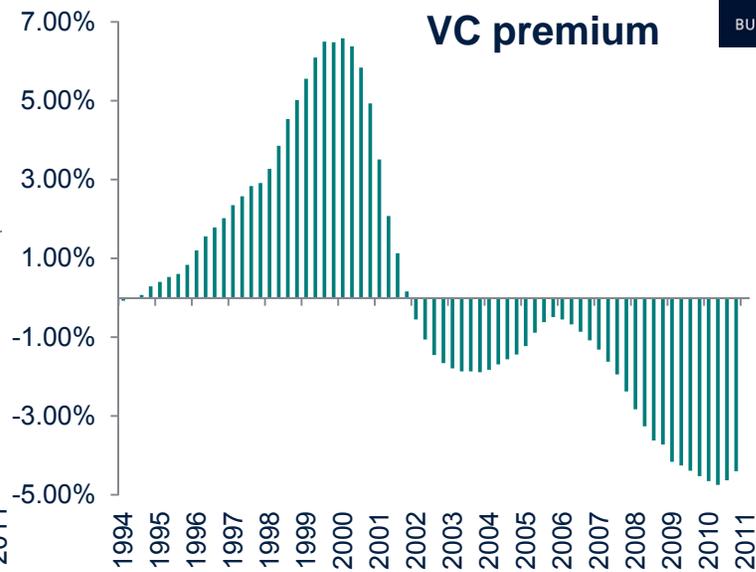
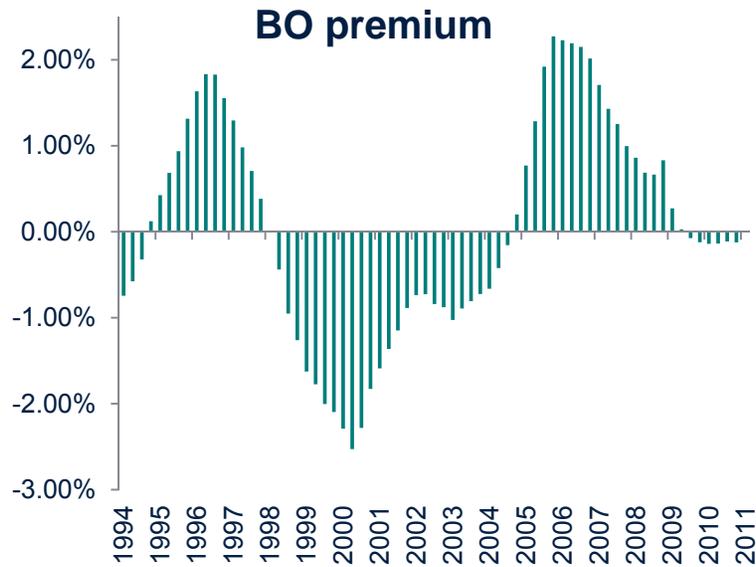
Model	β_{market}	β_{size}	β_{value}	$\beta_{\text{illiquidity}}$	In-sample Alpha	Persistence of Alpha	Full sample Alpha	R-square
CAPM	1.41 ^a				0.05 ^a	0.40	0.04 ^a	0.93
	<i>0.24</i>				<i>0.01</i>	<i>0.19</i>	<i>0.01</i>	
3 factors (FF)	1.49 ^a	0.41	0.09		0.04 ^a	0.43	0.03 ^a	0.95
	<i>0.23</i>	<i>0.31</i>	<i>0.27</i>		<i>0.01</i>	<i>0.19</i>	<i>0.01</i>	
4 factors (PS)	1.41 ^a	0.41	0.03	0.36	0.00	0.48	0.00	0.97
	<i>0.21</i>	<i>0.26</i>	<i>0.23</i>	<i>0.27</i>	<i>0.02</i>	<i>0.19</i>	<i>0.01</i>	
EW CAPM	1.42 ^a				-0.04 ^a	0.45	-0.04 ^a	0.98
	<i>0.18</i>				<i>0.01</i>	<i>0.19</i>	<i>0.01</i>	
EW FF	1.47 ^a	0.40	-0.11		-0.04 ^a	0.47	-0.04 ^a	0.98
	<i>0.20</i>	<i>0.25</i>	<i>0.21</i>		<i>0.01</i>	<i>0.19</i>	<i>0.01</i>	
EW PS	1.40 ^a	0.33	-0.19	0.26	-0.05 ^a	0.47	-0.05 ^a	0.97
	<i>0.22</i>	<i>0.30</i>	<i>0.25</i>	<i>0.27</i>	<i>0.02</i>	<i>0.19</i>	<i>0.01</i>	

Comparison (of g_t) with Industry Indexes



	Mean	Volatility	Percentiles		Autocorrelation
			25 th	75 th	
CF buyout index	0.15	0.26	-0.12	0.53	0.06
Cambridge Associates buyout index	0.16	0.12	0.04	0.33	0.41
LPX listed buyout index	0.16	0.30	-0.05	0.45	0.22
CF venture capital index	0.18	0.34	-0.18	0.67	0.03
Cambridge Associates venture index	0.19	0.28	-0.03	0.35	0.61
LPX listed venture capital index	0.13	0.39	-0.33	0.64	0.14
CF real estate index	0.05	0.17	-0.12	0.31	0.24
NCREIF (Real Estate) index	0.09	0.05	0.07	0.15	0.82
CF private equity index	0.15	0.29	-0.15	0.58	0.00
LPX 50 index	0.13	0.35	-0.21	0.52	0.18

The different PE cycles (ft)



NB: $E(ft)=0$ by construction

Pro-cyclical Investing in Private Equity



<i>growth in</i>	Private equity		Venture capital		Buyout	
	N_{funds}	Capital	N_{funds}	Capital	N_{funds}	Capital
Constant	-0.19 ^b	-0.09	-0.03	0.11	-0.27 ^a	-0.43 ^a
	-1.99	-0.38	-0.59	1.07	-2.60	-4.91
Our CF index, year t	1.11 ^a	1.51 ^a	1.01 ^a	1.06 ^a	1.52 ^a	1.53 ^a
	4.67	5.76	5.09	5.17	7.30	2.74
IRR, vintage year t	0.11	0.51	0.25	0.72	1.87 ^a	3.80 ^a
	0.77	1.48	0.85	1.02	6.11	5.54
Cambridge Associates index, year t	0.01	0.08 ^c	-0.10	0.08	0.21	1.82 ^a
	0.39	1.76	-1.56	0.89	0.53	2.93
IRR, vintage year $t-1$	-0.02	-0.39	-0.20	-0.51	-1.06 ^a	-2.18 ^a
	-0.12	-0.96	-0.52	-0.63	-5.16	-2.66
Adjusted R-square	75%	34%	59%	22%	64%	47%
Number of observations	16	16	16	16	16	16

NB: Alternative return measures do not exhibit a past-performance/capital-flow relation

Private Equity Returns Over the Business Cycle



Dependent Variable:	CF BO index ($g_{bo,t}$)		Premium ($f_{bo,t}$)		Cambridge Associates index	
Constant	0.05 ^a	-0.01	0.00	-0.01 ^b	0.04 ^a	0.01
	<i>5.41</i>	<i>-0.49</i>	<i>-0.21</i>	<i>-2.48</i>	<i>5.07</i>	<i>0.46</i>
Ebitda/EV - High yield spread		3.01 ^a		0.51 ^a		1.45 ^a
		<i>3.06</i>		<i>2.78</i>		<i>3.41</i>
Industrial production growth	2.02 ^a	0.21	0.04	-0.27 ^c	1.51 ^a	0.63 ^c
	<i>2.74</i>	<i>0.20</i>	<i>0.35</i>	<i>-1.75</i>	<i>5.41</i>	<i>1.86</i>
Default spread (BAA-AAA)	-2.55 ^a	-1.88 ^a	0.06	0.17 ^b	-0.37	-0.04
	<i>-5.72</i>	<i>-3.80</i>	<i>1.11</i>	<i>2.54</i>	<i>-1.45</i>	<i>-0.17</i>
Inflation	-0.85	-0.73	0.04	0.06	-0.22	-0.16
	<i>-0.61</i>	<i>-0.54</i>	<i>0.38</i>	<i>0.70</i>	<i>-0.46</i>	<i>-0.32</i>
Sentiment index	0.03	0.06	0.01	0.01	0.36 ^a	0.38 ^a
	<i>0.20</i>	<i>0.43</i>	<i>0.20</i>	<i>0.43</i>	<i>3.09</i>	<i>3.17</i>
Survey of loan officer	0.23 ^a	0.21 ^a	0.01	0.00	0.05	0.04
	<i>3.12</i>	<i>2.60</i>	<i>0.38</i>	<i>0.11</i>	<i>1.63</i>	<i>1.44</i>
Return VIX	-0.22 ^a	-0.18 ^a	0.00	0.01 ^b	-0.06 ^a	-0.04 ^b
	<i>-5.25</i>	<i>-4.07</i>	<i>0.75</i>	<i>2.34</i>	<i>-3.55</i>	<i>-2.34</i>
Adjusted R-square	58%	64%	-7%	14%	57%	63%
Number of observations	72	72	72	72	72	72

- Consistent with Kaplan and Stromberg (2009) market segmentation hypothesis, the return on an equity-debt arbitrage strategy is highly correlated to buyout (equity) returns.
- Also see that Default spread is negatively related to total buyout returns but positively related to the Premium (all else equal)

Capital Commitment and Illiquidity Risks in Private Equity*



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Abstract

Investing in real estate, infrastructure, leveraged buyouts, or venture capital typically involves committing capital to a fund several years before the capital is actually used. Once the capital is called and invested, the asset is untradable until the fund exits the project. We present a model of capital commitment and allocation that captures this type of illiquidity along with realistic features of the data like strategic default and liquidity cycles. With one illiquid asset, the welfare premiums associated with call timing and quantity uncertainty are very small because of the ease of adjusting liquid risky asset exposure. The presence of multiple illiquid assets allows the investor to diversify across liquidity events, increasing welfare, but generating a funding mismatch: some funds may call early while others return capital late. With many funds, the welfare premium associated with commitment risk is equivalent that of increasing investment returns by 1.63%.

JEL Classification: G11, G12

Keywords: Capital commitment, private equity, real estate, illiquidity, credit line

Illiquidity



- **Commitment risk and illiquidity**
 - Former is about not knowing when part of your portfolio starts being illiquidity & how much of it will be
 - Latter is about not knowing when part of your portfolio stops being illiquidity & how much of it will be
- **Illiquidity is costly in classic asset allocation models**
 - That is because investors want to have a smooth consumption and that makes it hard
- **Commitment risk is NOT costly in classic asset allocation models**
 - That is because asset allocation does not matter much if you cannot predict the future
 - BUT if there are many PE funds, the effect of commitment is not negligible because of potential for liquidity squeezes
 - NB: Allocation to illiquid assets is always about 30% maximum because of the high likelihood of default beyond that amount

Conclusion



An integrated view of Alternative Investments



PE outperforms the S&P 500, But

- Assume PE is a levered investment in small value companies
- Listed levered small value stocks also outperform the S&P 500

The \$1 million question becomes:

Which of these two routes deliver the premium cheapest?

How to get the listed (levered) small value companies premiums?

- Smart beta ETFs et al.
- Specialized mutual funds (e.g. Dimensional Fund Advisors)
- Indexers (e.g. Vanguard)
- D.I.Y. (e.g. Norway SWF)

The cost of PE is illiquidity (commitment risk and non tradability) and fees/implementation costs

Illiquidity

- We estimate the necessary liquidity premium to be 2-3% p.a. and it increases with the number of funds

Fees / implementation costs

- 50 shades of PE
- If it is mostly about getting that premium, then the question becomes
 - You can probably do it yourself – and save on 6% fees
 - Or do you still need an intermediary?
 - Or do both?

Some more thoughts on direct investing



- Do it yourself. Two philosophies:
 - Active: I hire people from PE firms, pay them similarly etc. and get in-house PE [Canadian model]
 - Passive: I just buy and hold small / mid-cap value companies, and do the simple stuff (e.g. optimize capital structure, align management interest)
- Note: Good fund selection may be possible for smaller investors, most likely in the mid-market and small-fund / deal-by-deal space, but we do not have evidence of it
- Future may differ from the past!

Keeping in touch



- Research articles freely available on *SSRN.com*
- LinkedIn group: *Oxford University Asset Management Network*
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Diversification



- Difficult to tell but PE seems to co-move with risk factors driven listed equity returns (size premium, value premium, illiquidity risk premium)
- Makes sense – at the end of the day, it is still equity
- Yet, premiums of sub-categories seem uncorrelated



Incentives in private equity are well aligned



- Yes, they are.
 - Between portfolio company executives and PE fund managers
 - Very sharp (use of preferred and common equity to generate option like payoffs for management)

- How about LP-GP alignment of interest?
 - Well...
 - Most fees are fixed (are not *directly* related to performance)
 - Fees that are related to performance (carry) do not reflect stock-market returns, i.e. cost of capital
 - And talking about alignment, here are portfolio company fees: GPs can decide how much to be paid for its work ex-post, taking cash directly out of portfolio company cash account