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The Performance of Listed Hedge Fund Firms

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BNP Paribas Hedge Fund Centre Hedge Fund Insights

Contents

Mission of the BNP Paribas Hedge Fund Centre

The mission of the BNP Paribas Hedge Fund Centre is to facilitate, encourage, and sponsor high-level academic research on hedge funds. The Centre also provides outstanding education to students, executives, and investors, and publishes objective and independent information on hedge funds, while promoting understanding and awareness of alternative investment strategies. Through excellence in research on alternative investments, the Centre is recognized for its capacity to foster stimulating exchange of opinions, and to develop a knowledgeable and objective information base regarding hedge funds.

Specifically, the primary objectives of the BNP Paribas Hedge Fund Centre at the Singapore Management University are to

1. conduct and disseminate high quality academic hedge fund research
2. educate finance practitioners and the investor public on hedge funds, and
3. raise the profile of the hedge fund industry in Asia and Singapore

To achieve these goals, the Centre will collaborate closely with academics at the London Business School. Moreover at all times, the Centre is absolutely committed to the highest ethical conduct and will actively avoid any conflicts of interest with outside parties.

The Performance of Listed Hedge Fund Firms

Sun Lin and Melvyn Teo[1]

Executive summary

We examine the impact of fund management company listing on hedge fund performance. We find that hedge funds managed by listed firms underperform those managed by unlisted firms by 1.89 per annum after adjusting for risk. Using an event study framework, we show that hedge fund performance deteriorates from 10.32 percent per year in the 36-month pre-listing window to 2.16 percent per year in the 36-month post-listing window. Over the same period, firm assets under management effectively double from US$1.54bn to US$3.04bn. There is no evidence to suggest that funds managed by listed firms are better able to manage operational risk and are therefore less likely to terminate fund operations. Our results shed light on the motives for exchange listing by hedge fund firms.

"When a fund management company lists on a stock exchange, its clients are not uniformly delighted. They are aware that potential conflicts of interests can arise that some companies fail to manage. However, there are also benefits for clients …"

- The Financial Times, 22 July 2012

Why do hedge fund management companies list on stock exchanges? Fund investors charge that firm listing allows firm founders to sell off their stakes in the fund management company to outsiders which introduces potential conflicts of interests. Given that few listed firms are able to escape the pressures from earnings season, fund managers in a listed firm may focus exclusively on returns quarter on quarter and sacifice long-term investment performance. Firm founders contend that listing allows hedge fund firms to better incentivize employees through employee stock options. The funds raised through the initial public offering allow firms to invest in technology and business support. Investors acknowledge that listed firms may be operationally more robust than their unlisted counterparts as the former tend to provide greater transparency and disclosure.[2] In this issue of the hedge fund insights, we put these concerns to the test and evaluate the performance of hedge funds run by listed management companies.

Our analysis centers on data obtained from the TASS, HFR and BarclayHedge databases and on the 1994-2011 period. We merge these databases by hand using fund name. The sample includes 18,338 funds of which 11,624 stop reporting by the end of the sample period in December 2011, leaving us with 6,714 live

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[2] See "Going Public Brings Benefits and Pitfalls," The Financial Times, 22 July 2012.

funds at the end of the sample period. Of the funds in our combined sample, 3,402 funds are unique to TASS, 1,889 funds are unique to HFR, and 5,345 funds are unique to BarclayHedge.

To determine whether a hedge fund management company is listed on a stock exchange, we obtain a list of listed asset management companies that manage hedge funds from three sources: (i) The Opalesque report on listed hedge funds which provides names of all listed asset management firms up to September 2007 (Gravrand, 2007), (ii) a list of publicly listed asset management companies from Yahoo! Finance (http://biz.yahoo.com/ic/422_cl_pub.html), and (iii) a Google search on various keywords as well as a Factiva search on news articles from the Wall Street Journal, The Financial Times, and Reuters. We then match the hedge fund management companies with the firms in our database and verify the link between the listed firm and the hedge fund management company using the S&P Capital IQ database. The S&P Capital IQ database also allows us to determine hedge fund firm listing date in the case of mergers and acquisitions.

Table 1 provides summary statistics on the number of listed firms as well as the number of funds and the size of the assets that they manage. While the number of listed fund management companies is small relative to the number of unlisted fund management companies, listed fund management companies manage a growing number of funds and pool of assets. In 1994, there were only eight listed firms managing 14 funds and US$2.43bn of assets. In 2011, the number of listed firms has grown to 99. These firms manage 907 funds and US$232.95bn of assets. This represents a 64-fold and 96-fold increase in the number of funds and asset under management, respectively. At end of our sample period, listed firms manage 14.59 percent of industry assets, a significant increase from 4.09 percent of industry assets at the start of the sample period.

Table 1: Fund sample summary statistics

	Listed Firms				Non-listed firms		
year	Number of listed corporate parent companies	Number of firms	Number of funds	Total AUM (US$m)	Number of firms	Number of funds	Total AUM (US$m)
1994	7	8	14	2,431	591	946	57,064
1995	8	11	22	2,655	701	1,147	61,083
1996	10	13	28	3,074	789	1,347	85,454
1997	11	17	39	4,846	915	1,567	105,846
1998	11	21	59	12,977	1,056	1,862	149,230
1999	11	20	62	16,665	1,221	2,184	163,761
2000	16	28	88	20,378	1,429	2,632	209,949
2001	20	36	107	23,164	1,482	2,901	258,482
2002	25	44	133	27,419	1,658	3,368	343,050
2003	28	46	152	40,780	1,711	3,577	365,984
2004	28	46	210	76,603	1,978	4,315	588,327
2005	30	47	288	104,350	2,225	5,023	828,018
2006	29	51	339	136,101	2,419	5,701	968,160
2007	34	59	428	180,865	2,618	6,192	1,247,164
2008	39	71	508	276,625	2,698	6,461	1,484,779
2009	35	72	490	171,669	2,740	6,431	1,041,901
2010	38	88	746	200,475	2,804	6,771	1,180,624
2011	37	99	907	232,946	2,751	6,506	1,363,559

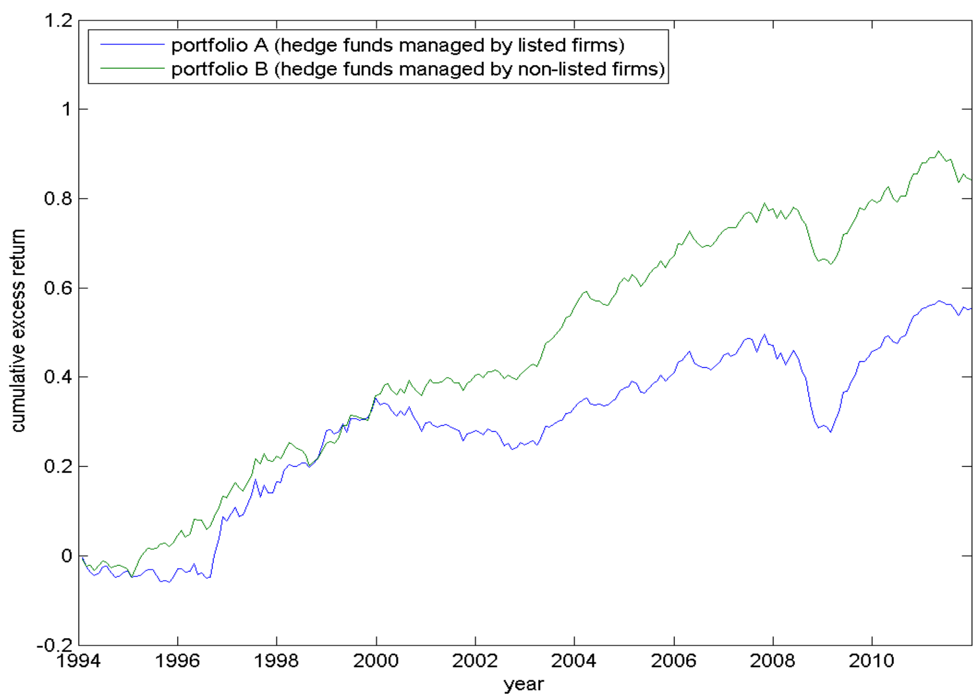
To understand the impact of firm listing on fund performance, we first perform a simple fund sort. Every year on January 1, we sort funds into two groups based on whether they were managed by listed firms or by non-listed firms. We hold the funds for a year and rebalance every January 1. The post formation returns on these fund portfolios are then linked across years to form a single return series for each portfolio. We then evaluate the performance of the listed and non-listed firm portfolios relative to the Fung and Hsieh (2004) factor model. The Fung and Hsieh (2004) factors include the S&P 500 factor (SNPMRF), the size factor (SCMLC), the term spread (BD10RET), the default spread (BAAMTSY), and trend following factors for bonds (PTFSBD), foreign exchange (PTFSFX), and commodities (PTFSCOM). The results in Table 2 indicate that funds managed by listed firms underperform those managed by unlisted firms by 1.76 percent before adjusting for risk and by 1.89 percent after adjusting for risk.

Table 2: Sorts on firm listing

Portfolio	Excess return (percent/ year)	Alpha (percent/ year)	SNPMRF	SCMLC	BD10RET	BAAMTSY	PTFSBD	PTFSFX	PTFSCOM	adj_r2
Hedge funds managed by listed firms	4.02**	2.85**	0.22**	0.04	-0.96*	-1.65*	0.00	0.00	0.02**	0.52
	(2.66)	(3.27)	(10.89)	(1.91)	(-2.56)	(-2.47)	(0.78)	(0.15)	(3.77)	
Hedge funds managed by non-listed firms	5.78**	4.74**	0.19**	0.11**	-0.57	-1.40**	0.00	0.01**	0.02**	0.58
	(4.47)	(6.30)	(12.58)	(6.57)	(-1.73)	(-2.65)	(0.46)	(3.29)	(2.91)	
Spread portfolio (Listed firms - Non-listed firms)	-1.76*	-1.89**	0.02	-0.07**	-0.39*	-0.25	0.00	-0.01**	0.01	0.19
	(-2.17)	(-3.23)	(1.64)	(-4.00)	(-2.00)	(-0.87)	(0.55)	(-4.07)	(1.60)	

In Figure 1, we plot the cumulative excess return of funds managed by listed firms versus funds managed by unlisted firms. We find that hedge funds run by listed management companies only started underperforming those run by unlisted management companies after 2000, which coincided with the height of the equity bull market in the 1990s. One view is that hedge fund firms monetize their past performance and time the stock market by listing opportunistically when equity valuations are high. These firms subsequently underperform post listing.

Figure 1: Performance of funds managed by listed firms versus funds managed by non-listed firms



Small hedge funds such as those with assets under management below US$20m are typically less interesting to institutional investors who write large cheques. In addition, there are concerns that some of the results may be driven by the underperformance of very small funds managed by listed firms or the overperformance of very small funds run by unlisted firms. To address these issues, we redo the fund portfolio sort after dropping funds with less than US$20m in assets under management. We find that funds controlled by listed firms underperform funds controlled by unlisted firms by 2.27 percent per year before adjusting for risk and by 2.34 percent per year after adjusting for risk. Indeed, the listed versus non-listed spread has increased after dropping very small hedge funds from the analysis. Given fund capacity constraints and the finding that smaller funds generally tend to outperform larger funds, this suggests that there is a greater preponderance of very small funds amongst those managed by unlisted firms than amongst those managed by listed firms.

Table 3: Sorts on firm listing for funds with at least US$20m in assets under management

Portfolio	Excess return (percent/ year)	Alpha (percent/ year)	SNPMRF	SCMLC	BD10RET	BAAMTSY	PTFSBD	PTFSFX	PTFSCOM	adj_r2
Hedge funds managed by listed firms	3.10*	1.92*	0.21**	0.01	-0.74*	-1.73**	0.00	0.00	0.01**	0.57
	(2.15)	(2.49)	(12.84)	(0.79)	(-2.23)	(-2.83)	(-0.36)	(0.55)	(2.85)	
Hedge funds managed by non-listed firms	5.37**	4.27**	0.19**	0.12**	-0.55	-1.45*	0.00	0.01**	0.01**	0.59
	(3.97)	(5.58)	(12.22)	(6.94)	(-1.61)	(-2.6)	(-0.27)	(2.82)	(2.63)	
Spread portfolio (Listed firms - Non-listed firms)	-2.27**	-2.34**	0.02	-0.10**	-0.19	-0.28	0.00	-0.01*	0.00	0.21
	(-2.81)	(-3.71)	(1.17)	(-5.74)	(-0.87)	(-0.94)	(-0.07)	(-2.58)	(0.07)	

Other than fund assets under management, factors that may explain hedge fund performance include fund fees, redemption terms, minimum investment, and age. Funds that charge higher incentive fees may be better incentivized to deliver performance (Agarwal, Daniel, and Naik, 2009). Funds that set longer redemption periods can partake in more illiquid securities and therefore earn a liquidity premium (Aragon, 2007). Funds that set higher minimum investment amounts may be in a better bargaining position vis-à-vis investors because of the superior pedigree of their fund managers. Younger funds that need to build a superior track record so as to raise capital and reach critical mass tend to be more motivated to generate stellar returns (Aggarwal and Jorion, 2011).

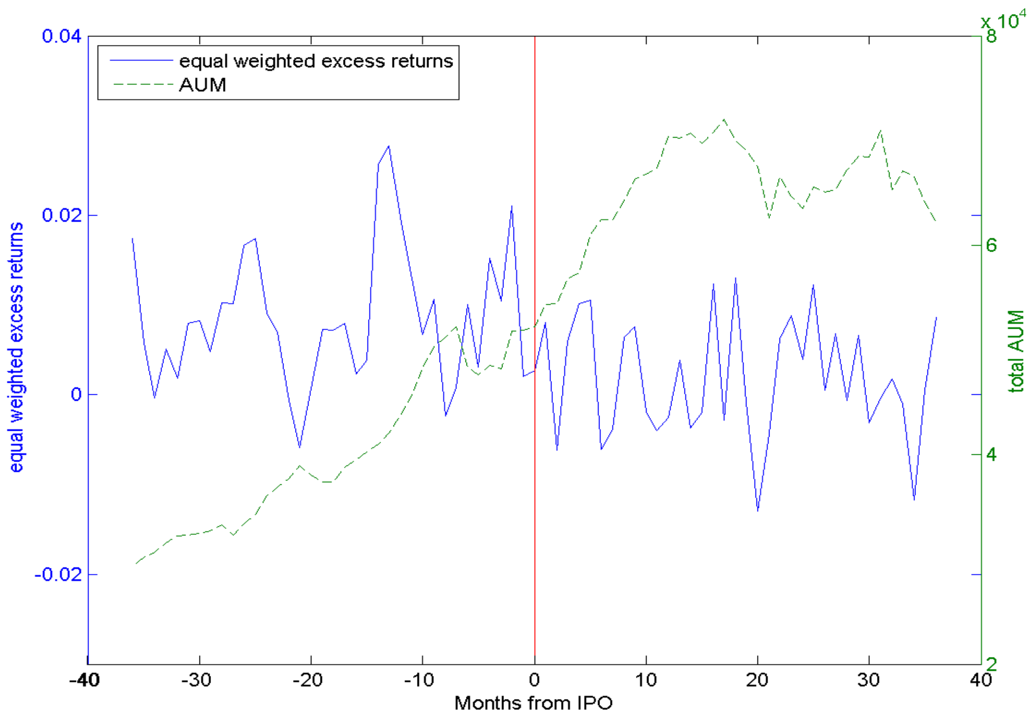
Table 4: Regressions on hedge fund performance

	Dependent variable							
	OLS regressions				FMB regressions			
Independent variable	Fund excess returns		Fund alpha		Fund excess returns		Fund alpha	
Listed firm dummy	-0.13**	-0.13**	-0.15**	-0.14**	-0.18**	-0.14*	-0.21**	-0.14**
	(-8.18)	(-7.34)	(-11.02)	(-9.61)	(-2.86)	(-2.1)	(-4.39)	(-2.99)
Management fee (%)		0.03**		0.06**		0.04		0.07*
		(3.11)		(7.58)		(1.03)		(2.57)
Performance fee (%)		0.01**		0.01**		0.01*		0.01**
		(10.66)		(17.40)		(2.18)		(5.80)
Redemption period (months)		0.07**		0.04**		0.09**		0.05**
		(13.07)		(9.75)		(2.81)		(2.76)
Minimum investment (US$m)		0.00		0.00		0.00*		0.00**
		(1.74)		(1.39)		(2.05)		(3.06)
Log (fund size)		-0.07**		-0.04**		-0.06**		-0.05**
		(-24.08)		(-17.32)		(-5.38)		(-5.09)
Fund age (decades)		-0.15**		-0.26**		-0.15**		-0.20**
		(-13.11)		(-26.58)		(-2.74)		(-3.96)

To distinguish the impact of such factors from the listing effect, we estimate OLS and Fama and MacBeth regressions on fund returns in excess of the risk free rate and on fund alpha. The regressions include as independent variables a listed firm dummy, management fee, performance fee, minimum investment, the natural logarithm of fund size, and fund age. The results reported in Table 4 reveal that the listed firm effect cannot be explained by any of the other factors known to explain fund performance. The coefficient estimates from the OLS regressions indicate that, after controlling other variables, firm listing crimps fund excess returns and alpha by 1.56 percent per year and 1.68 percent per year, respectively. Both these results are statistically significant at the one percent level. We obtain similar inferences from the Fama and MacBeth regressions.

To further understand the impact of firm listing on fund performance, we adopt an event study framework and analyze fund returns and assets under management in the 36-month pre and post IPO period. Figure 2 plots the average fund monthly returns and assets under management in the 36-month period before and in the 36-month period after firm IPO. We find that in line with the results from the portfolio sorts (Tables 2 and 3), fund performance deteriorates from 10.32 percent per year in the pre-event window to 2.16 percent per year in the post event window. At the same time, fund assets under management increases by 64 percent from US$39.91m in the 36-month pre-listing period to US$65.48m in the 36-month post-listing period. Listed firms staged an even larger increase in assets under management, growing by 98 percent from US$1.54bn in the pre-listing window to US$3.04bn in the post-listing window. Together with the findings from Tables 2 and 3, these results suggest that firms that listed likely outperformed other firms pre-IPO but underperformed other firms post-IPO. These findings cast doubt on the view that firm listing is helpful for fund investors.

Figure 2: Fund performance and assets under management pre- and post-firm listing



Perhaps listed hedge fund firms are able to compensate for their poorer investment performance by better minimizing operational risk and therefore reducing the probability that funds managed by such firms will terminate operations. Indeed there are reasons to believe that listed firms will be better at managing operational risk. Listed companies typically have to adhere to strict corporate governance standards. Better corporate governance may translate to superior risk management and lower operational risk. To investigate, we estimate logit regressions on the probability that a fund will terminate operations each year. The regressions include as independent variables those used in the Table 4 regressions as well as an additional variable to capture fund past performance: past three-year fund return. To determine whether a fund has terminated operations, we consider two cases. In case 1, all funds that dropped out of the database are assumed to have terminated operations. In case 2, only funds that dropped out of the database following three consecutive months of negative fund returns are assumed to have terminated operations. The coefficient estimates from the multivariate logit regressions indicate that the probability that a fund terminates operations is either positively associated with the listing dummy. In case 1, the coefficient estimate on the dummy is statistically significant at the one percent level while in case 2, the estimate is statistically indistinguishable from zero. These results suggest that firm listing does not on average engender higher fund survival probabilities.[3]

Conclusion

Reading between the lines, our findings suggest that hedge fund firms with strong performance records list on stock exchanges. These firms subsequently experience a dramatic reduction in performance post-listing, so much so that they begin to underperform, albeit modestly, their unlisted competitors. These results are less in keeping with the view that listing on a stock exchange allows hedge fund firms to better incentivize employees via the award of stocks and stock options, and are more in line with the notion that firm founders take advantage of a recent bout of stellar performance by opportunistically offloading their ownership stakes in the fund management company to stock investors. That said, investors in the listed fund management companies benefit from the close to 100 percent increase in firm assets under management post listing which translates to higher management fees and therefore greater firm revenue. Fund investors however have to contend with poorer fund performance post listing and little or no improvements in fund operational risk management.

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[3] We also redo the Table 2 and 3 sorts after including a -10% return for the month that a fund drops out of a database to account for fund termination. Our findings easily survive the adjustment for fund termination.

Update on the Centre's Activities

Education

Our annual hedge fund conference will be held in the morning of 18 October 2013. The confirmed speakers for the event include Chris Gradel from Pacific Alliance Group, Owi Ruivivar from Goldman Sachs, Wong Kok Hoi from APS Asset Management, and Professor Tarun Ramadorai from Oxford. Conference registration is by invitation only. Please stay tuned for the conference emailer.

Research

The centre director will be presenting his work on "Growing the Asset Management Franchise: Evidence from Hedge Fund Firms" (with Bill Fung, David Hsieh, and Narayan Naik) at the European Finance Association Meetings in Cambridge UK on 29 August 2013.

For more information regarding the BNP Paribas Hedge Fund Centre at SMU and our upcoming activities, please contact Ms Karyn Tai, centre coordinator (Tel: +65-6828-0933, E-mail: hfc@smu.edu.sg) or visit our webpage at http://www.smu.edu.sg/centres/hfc/index.asp. We look forward to receiving your suggestions and comments.