

Original Article

The game of ‘activist’ hedge funds: *Cui bono?*

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Yvan Allaire

is an Emeritus professor of strategy at Université du Québec à Montréal (UQAM) and a Fellow of the Royal Society of Canada (FRSC). He received his PhD from the Massachusetts Institute of Technology (MIT). He is currently Executive Chair of the Institute for governance of private and public organizations (IGOPP).

François Dauphin

is a Professional accountant (CPA, CMA) and holds an MBA from Université du Québec à Montréal (UQAM). He is currently Director of Research of the Institute for governance of private and public organizations (IGOPP) and a lecturer at UQAM.

ABSTRACT This article aims to describe the contemporary objectives and tactics of activist hedge funds as well as the actions taken by the targeted companies as a result of their intervention. In this research, we explore the consequences of activism over time (impact on operational performance and share price returns) and compare these with a random sample of firms with similar characteristics at the time of intervention; we also analyse the singularities associated with salient sub-groups of targeted firms. The sample used for our research consists of all 259 firms targeted by activist hedge funds in 2010 and 2011. We found evidence that any improvements in operating performance (return on assets, return on equity, Tobin’s Q) result mainly from selling assets, cutting capital expenditures, buying back shares, reduce workforce and other basic financial manoeuvres. Although there is no evidence of deterioration over a 3-year period, the stock’s performance of targeted companies over a 3-year span barely matches the performance of a random sample of companies. We found that the best way for activists to make money for their funds is to get the company sold off or substantial assets spun off. If not sold, the hedge fund episode often results for the targeted firms in change of senior management and board members, stagnation of assets and R&D. This research does not provide any evidence of the superior strategic sagacity of hedge fund managers, but does point to their keen understanding of what moves stock prices in the short term.

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INTRODUCTION

Shareholder activism comes in many shapes and hues (Nili, 2014). There is the socially minded, issue-driven, form of activism (Rehbein *et al*,

2013, p. 137), the ‘soft’ activism of institutional investors and the ‘hard’, financially driven, activism practiced principally by hedge funds. *Social activism* usually takes the form of pressures on corporations to change their social agenda and cope with environmental, moral, religious or other non-business issues. The *soft* activism of institutional investors usually involves shareholder proposals aimed at ‘improving corporate governance’ (Thomas and Cotter, 2007).

Correspondence: François Dauphin, Institute for governance of private and public organizations 1000 De La Gauchetière St. West, Suite 1410 Montreal (Quebec) H3B 4W5, Canada
E-mail: fdauphin@igopp.org

The Shareholder Rights Project set up by the Harvard Law School Programme on Institutional Investors is representative of this type of activism.

Finally, the financially driven *activism of hedge funds* consists of targeting companies where it is expected that implementing measures from a menu of manoeuvres will likely boost their stock prices. The activist first determines whether a company would likely ‘benefit’ from its intervention; if deemed so, the hedge fund takes an equity position and then begins to agitate for changes (Kahan and Rock, 2007). *This form of activism is the focus of this article.*

Over the last few years, hedge fund activism has received a great deal of coverage in financial media (and in the mainstream press), has triggered heated debates and been the focus of much academic research. Saviour of capitalism for some, for others, activist hedge funds are but mongers of short-term tactics that eventually damage business corporations (Allaire, 2015). The funds invested with these activists by institutional investors have been increasing at a 25.4 per cent compounded annual rate between 2010 and 2015 (Turner, 2015).

Flush with the cash showered on these funds by institutional investors (Plath and Taylor, 2014) and increasingly supported in their campaigns by mutual funds, pension funds and other institutional investors, some hedge funds are now targeting larger firms with the intention of forcing a split of their operations or an outright sale of the whole company (examples

of these include Pershing Square at Allergan, Mondelez and so on; Triam at Pepsico, Mondelez, Dupont and so on; Value Act at American Express).

Much academic research has been carried out on the topic but the results are less than compelling. As usual, academia is enlightening but not decisive.

Here are some of the limitations of recent research:

1. Events included as actual hedge fund interventions are vaguely or poorly identified, leading to very different numbers of occurrences for the same years in different studies. Table 1 illustrates this point rather strikingly, indicating large variations in definitions of activist events used by different researchers. For the same period of time or very close periods, researchers come up with different numbers of activist interventions.
2. The date at which the intervention really occurs is rarely explicit; the intervention’s impact may be measured from the date of 13D filing or other public announcement, or the date at which the activist’s demands are satisfied and whether the activist is eventually successful or not with his demands; these different dates and events make a significant difference in assessing the impact of the intervention (Goodwin, 2015). Karpoff (2001) illustrated the discrepancies among 20 empirical studies on the effects of shareholder activism.

Table 1: Number of hedge funds and targeted companies

	<i>Period</i>	<i>Number of hedge funds</i>	<i>Hedge fund-target pairs</i>	<i>Unique target companies</i>
Brav <i>et al</i> (2008)	2001–2006	236	1059	882
Xu and Li (2011)	1994–2008	505	3686	2626
Zhu (2013)	1994–2007	330	1264	988
Clifford (2008)	1998–2005	197	788	N/A
Boyson and Mooradian (2011)	1994–2005	111	418	397
Greenwood and Schor (2009)	1994–2006	139	784	N/A
Gantchev (2013)	2000–2007	171	1164	1023
Bebchuk <i>et al</i> (2013, 2015)	1994–2007	N/A	2040	N/A
Goodwin (2015)	1990–2014	N/A	N/A	3202

He pointed out differences in time periods, sample sizes, types of events examined and definitions of success in shareholder activism (he found six different definitions of success).

- Several studies, as shown in our Table 1, have gathered data on hedge fund activism going back to the 1990s; the nature and form of this activism have changed greatly over the years; by including older instances, these studies risk mixing apples and oranges in their analysis. Indeed, the findings from earlier work on activism seem to be contradicted by more recent research. For instance, according to Denes *et al* (2015), 'activism in more recent years is more frequently associated with increased share values and operating performance', while Ikenberry and Lakonishok, in 1993, found that '[W]hen dissidents are successful in acquiring board seats [...] a downward drift in cumulative abnormal returns extending over a 2-year

period following the announcement of the contest is observed'.

- Many studies have been focusing on the impact of activists' 13D filing on the stock price of the targeted company *over a short period of time* (usually 20 days before and 20 days after). Indeed, there is ample evidence of 'abnormal' returns in a short period around the public disclosure of activism (Brav *et al*, 2008; Clifford, 2008; Brav *et al*, 2009; Greenwood and Schor, 2009; Klein and Zur, 2009; Boyson and Mooradian, 2011; Gow *et al*, 2014; Krishnan *et al*, 2015), and in Europe and Asia (Becht *et al*, 2014).

Many observers interpret this jump in stock price on the appearance of an activist fund as evidence of shareholders valuing their brand of activism. The trouble with that interpretation comes from the fact that, as shown in Figure 1 by von Lilienfeld-Toal and Schnitzler (2014), almost all announcements in the form of 13D filing tend to produce a boost in stock price of the company.

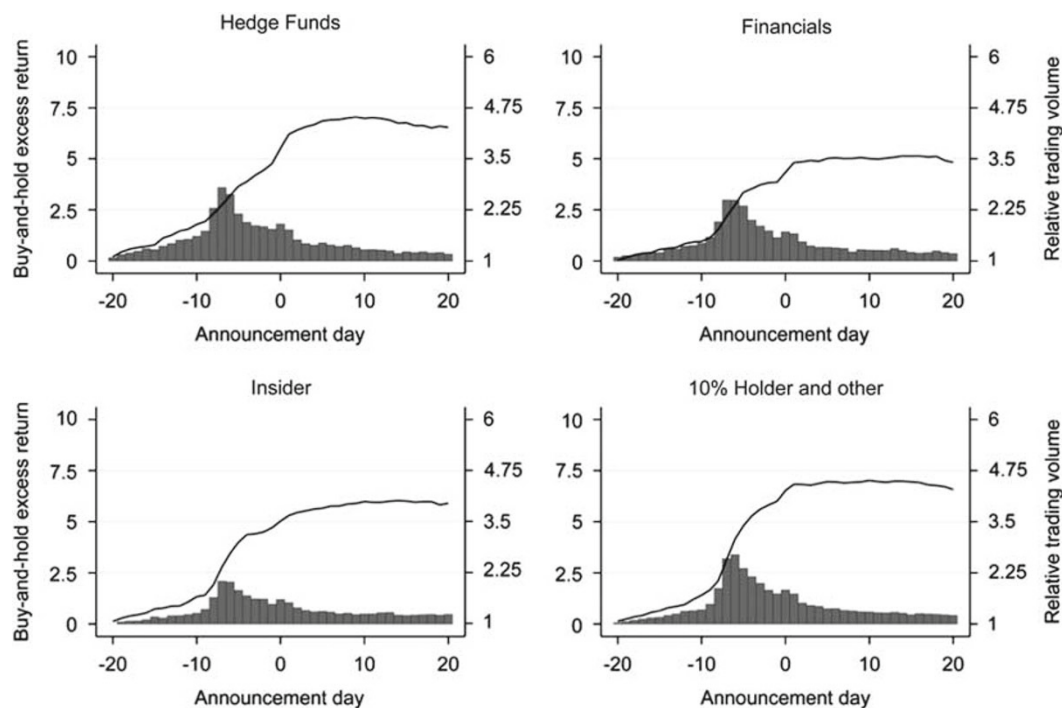


Figure 1: Abnormal returns for different 13-D filers.
Source: von Lilienfeld-Toal and Schnitzler (2014).

- So, there is nothing special about activist hedge funds in this regard. Investors will tend to read almost any 13D filing as an indication that some move is afoot and will not want to miss out on an opportunity of whatever sort.
5. Studies describing what has happened to companies after the arrival of an activist fund have found a mixture of effects: increased divestiture, decreased acquisition activity, higher probability for the targeted firm being sold out, lower cash balances, higher payout ratios, greater leverage, higher CEO turnover and lower CEO compensation, reduced investment, 'improved' return on assets (ROA) and improved ratio of enterprise 'market' value to its book value (Tobin's Q). But these effects are not linked to specific hedge fund strategies and, though often seen as positive by researchers, it remains unclear whether companies and their shareholders have really benefited from, or been harmed by, these effects (Briggs, 2007; Gillan and Starks, 2007; Bebchuk *et al*, 2013, 2015; Goodwin, 2014; Gow *et al*, 2014).
 6. Finally, too many of the studies aiming to show statistical relationships between activism and company performance have applied the standard analytics in the field of financial economics from which they originate (for example, Brav *et al*, 2008, 2009, 2014 and 2015; Bebchuk *et al*, 2013, 2015); the data collected is treated with multivariate statistics bringing together all variables plus dozens or hundreds of dummy variables. The results, statistically significant here and there, leave much room for interpretation and a nagging feeling that the analysis has managed to obfuscate rather than clarify relationships (see Epstein and King, 2002; Lipton, 2013; Allaire and Dauphin, 2014a, b, 2015; Coffee and Palia, 2014; Strine Jr, 2014).

To cope with several of these shortcomings, we have designed a study focusing on activist events of the *years 2010 and 2011*. These events are close enough in time to capture the

contemporary tactics and objectives of activist funds. Yet, these 2 years allow us to monitor what happened at target companies for some 3 years afterwards.

Specifically, we are pursuing a number of research objectives:

- Describe the contemporary tactics and objectives of activist hedge funds as well as the actions taken by targeted companies as a result of their intervention
- Explore the consequences of activism over time when compared with a random sample of firms with similar characteristics at the time of intervention (effects on operational performance and share price returns)
- Analyse the singularities associated with salient sub-groups of targeted firms

METHODOLOGY

The WSJ-FactSet Activism Scorecard lists 461 cases of activism for the years 2010–2011. We eliminated the 'activist campaigns' undertaken by individuals, by labour unions, by corporations, by named stockholder groups, by public pension funds or other stakeholders. The sample was thus reduced to 342 activist campaigns. Then, we took out the 52 cases where the targeted entity was a *closed-end fund*. The objectives and dynamics of these campaigns differ from the typical hedge fund activism. Finally, some 24 companies in the sample were targeted by more than one hedge fund in the same year, for a total of 55 campaigns. Therefore, our final sample is comprised of 290 campaigns by 165 activist hedge funds targeting 259 firms.

Table 2 maps out how and why the original 461 cases became 259 hedge fund campaigns, each targeting a single company.

These 259 companies belonged to a diverse set of industries as shown in Table 3. *The sample distribution by industry must be carefully considered when interpreting statistical results.*

We relied on Compustat for the financial data related to the targeted firms. To fill in missing data in Compustat, we retrieved the

information directly from the SEC filings of targeted firms. Our focus is to map out what has happened to the performance of these targeted companies.

It is worth pointing out that several published studies on hedge fund activism (see Table 1) are based on a number of events very

close to the top number in Table 2, which means that many events were included in these studies that are not truly cases of hedge fund activism.

The better known hedge funds show up again in our sample as the most active players, five of them accounting for 67 of the 259 targeted firms (Table 4).

Table 2: Sample selection process

	2010	2011	Total
WSJ-FactSet Activism Scorecard	219	242	461
<i>Eliminate campaigns by other types:</i>			
Individuals	(22)	(25)	(47)
Labour unions	(2)	(5)	(7)
Corporations	(3)	(2)	(5)
Public pension funds	(2)	(1)	(3)
Other block holders	(31)	(23)	(54)
Mutual fund managers	0	(3)	(3)
<i>Total campaigns by hedge funds</i>	159	183	342
Target is a closed-end fund	(22)	(30)	(52)
<i>Campaigns by hedge funds against corporations</i>	137	153	290
Multiple campaigns against a single target	(22)	(9)	(31)
Unique targets	115	144	259

DESCRIPTION OF OUR SAMPLE OF ACTIVIST EVENTS

Numerous studies have described the gamut of stated objectives pursued by hedge funds as well as the variety of tactics used to achieve them (for example Bratton, 2007, 2010; Brav *et al*, 2008; Brav *et al*, 2009; Greenwood and Schor, 2009; Becht *et al*, 2014). Table 5 shows the diversity of objectives in our sample. Getting the company sold or some assets spun off is clearly the dominant objective. It is followed by change in governance/getting their people on the board and change in payout policy (basically getting the company to buy back its shares or pay some special dividend).

Table 3: Firms by industry within activist sample

<i>Industry (NAICS 2-digits)</i>	<i>Number of firms</i>	<i>Percentage of total sample</i>
Mining (21)	6	2.3
Utilities (22)	3	1.2
Construction (23)	2	0.8
Manufacturing – Food, beverage, textiles, clothing and leather (31)	8	3.1
Manufacturing – Wood, paper, chemicals and plastics (32)	34	13.1
Manufacturing – Metal, machinery, appliance and transportation equipment (33)	53	20.4
Wholesale trade (42)	5	1.9
Retail trade (44–45)	10	3.9
Transportation and warehousing (48–49)	2	0.8
Information (51)	32	12.4
Finance and insurance (52)	47	18.1
Real estate rental and leasing (53)	14	5.4
Professional, scientific and technical services (54)	14	5.4
Administrative, support, waste management and remediation services (56)	4	1.5
Health care and social assistance (62)	8	3.1
Arts, entertainment and recreation (71)	3	1.2
Accommodation and food services (72)	10	3.9
Other services (except Public administration) (81)	4	1.5
Total	259	100%

Activist hedge funds seek to achieve a quick and substantial stock price appreciation (Bratton and Wachter, 2015); to achieve their objectives, they put forth a variety of tactics that often brings them in conflict with the management and the board of directors of targeted companies. Table 6 lists the tactics employed by the activists in 2010 and 2011.

Table 4: Five most active hedge funds

<i>Hedge funds</i>	<i>Number of campaigns</i>
Stillwell Value LLC	19
Ramius/Starboard Value LP	17
Icahn Associates Corp.	16
Arcadia Capital Advisors LLC	9
Pershing Square Capital Management LP	6

The first two tactics may be viewed as non-hostile (communicate with the board or the management of the targeted firm; reach a private agreement for the activist to be represented on the board) while the other tactics are surely hostile (Gantchev, 2013).

In many instances, activist hedge funds list several tactics so we retained the most ‘hostile’ tactic to classify them. On that basis, 75.29 per cent of the interventions could be considered hostile (sum of tactics 3–7 in Table 6), and that the most frequent tactic employed by activist hedge funds is to publicly criticize the company, the board or the management, either through a letter to shareholders, a press release or directly through a Schedule 13D filing.

Table 5: Activist hedge funds stated objectives

	<i>2010</i>	<i>2011</i>	<i>Total</i>	<i>Percentage of cases</i>	<i>Successful (%)^a</i>
Sell the company or asset restructuring	36	44	80	30.89	70.00
Governance structure or board change	29	45	74	28.57	62.16
Change in payout policy	19	26	45	17.37	91.11
Cost reduction	9	6	15	5.79	66.67
Omnibus	5	11	16	6.18	87.50
Other	11	5	16	6.18	62.50
Undisclosed or vaguely described	6	7	13	5.02	69.23
Number of interventions	115	144	259	100.00	71.81

^a‘Successful’ refers to the fact that the company announced it was taking steps to implement the objective stated by the activist hedge fund. In several cases however, as we shall see below, the company did not, could not, achieve the implementation of the objective sought by the hedge fund.

Table 6: Tactics used by activist hedge funds

	<i>2010</i>	<i>2011</i>	<i>Total</i>	<i>Percentage of cases</i>
1. Communicate with board/management	22	23	45	17.37
2. Seek board representation without confrontation	10	9	19	7.34
3. Publicly criticize the company	31	42	73	28.19
4. Use the threat of proxy contest or legal action	13	27	40	15.44
5. Launch a proxy fight	32	33	65	25.10
6. Sue the company	1	4	5	1.93
7. Make an unsolicited/hostile offer	6	6	12	4.63
Number of interventions	115	144	259	100.0



Table 7 shows that activists were successful in some 72 per cent of cases in achieving partially or completely their objectives, particularly so when they behaved in a hostile manner.

Table 7: Success rate of activist campaigns by tactic employed^a

Tactics	Successful (%)
Communicate with board/management	57.78
Publicly criticize the company	58.90
Use the threat of proxy contest or legal action	85.00
Launch a proxy fight	83.08
Sue the company	20.00
Make an unsolicited/hostile offer	75.00
Overall success rate	71.81

^aThe tactic labelled 'Seek board representation without confrontation' is only accounted for when successful, because unsuccessful attempts are not publicly known, and thus fall into the other categories. For that reason, this tactic was withdrawn from this table.

Table 8: Holding period after announcement (days) for concluded endeavours

Centile	2010	2011	Total
25th	203	181	183
50th	410	479	458
75th	785	774	784
90th	1361	1019	1069
Mean	546	507	527

Note: $N=200$; as of April 2015, activists were still holding a stake (or we were unable to track an official exit date) in 59 firms of the sample (16 in 2010 and 43 in 2011).

Table 9: Stake ownership at announcement (%)

Centile	2010	2011	Total
25th	5.55	5.18	5.30
50th	9.06	7.20	7.70
75th	12.42	9.60	10.09
90th	18.33	14.50	16.48
Mean	10.44	7.90	9.05

As per our Table 8, the activists in our sample have held the shares of targeted company for a median period of 458 days and on average for 527 days (or about a year and a half).

Their stake in the equity of the targeted companies at the time of their announcement represented some 9 per cent on average of total outstanding common shares (Table 9).

A MATCHED RANDOM SAMPLE

To calibrate the actions and performance of these 259 targeted companies, we have set up a random sample of 259 companies selected to match the targeted companies at year t in terms of industry classification and market value.¹ Tables 10, 11, 12 and 13 present statistics that clearly show the close fit between the random sample and the set of targeted companies at time = t , the year activists targeted these specific companies.

Although the activist hedge funds targeting large companies get lots of media coverage, it appears from our study, and as reported in several other studies (Brav *et al.*, 2008; Aslan and Maraachlian, 2009; Greenwood and Schor,

Table 10: Median results of a set of descriptive variables at $t = \text{event year}$ for the targeted firms and the random sample

	Activist sample median	Random sample median
Market cap (\$ millions)	148.49	150.91
Total assets (\$ millions)	412.68	314.26
Revenues (\$ millions)	201.00	107.68
ROS	0.0321	0.0484
ROA	0.0350	0.0685
ROE	0.0159	0.0750
Tobin's Q	1.1770	1.5538
1-year share price return ^a	-0.0094	0.0075

^aFrom 31 December, year $t-1$, to 31 December, year t .

2009; Klein and Zur, 2009; Boyson and Mooradian, 2011; Gantchev *et al*, 2015), that the median company targeted by activists is fairly small (market cap = US\$148 million; revenues = \$201 million).

Table 11: Exchange or market where shares of targeted firms and random sample firms were traded on 31 December of the year preceding initial investment by activist hedge funds

	Percentage of random firms	Percentage of targeted firms
New York Stock Exchange	28.57	27.80
NASDAQ	55.99	57.53
OTC Bulletin Board/Pink Sheets	15.44	14.67

Not only are many of the targeted companies fairly small but, as shown in Table 11, a significant number of them are not traded on either the NYSE or NASDAQ but merely trade over the counter (OTC) (the so-called ‘pink sheets’).

Our random sample offers a near perfect match in this respect. Similar characteristics were found by Krishnan *et al* (2015) in their sample where 64.5 per cent of the firms were listed on the NASDAQ. Klein and Zur (2009) found that 52.3 per cent of the firms targeted by activist hedge funds were listed on the NASDAQ, and almost 10 per cent of them were traded through OTC bulletin/pink sheets.

Table 12 shows the characteristics of targeted firms per quintile of market cap, while Table 13

Table 12: Median results of a set of descriptive variables at $t-1$ for the *targeted firms*, per quintile of market cap

	Q1	Q2	Q3	Q4	Q5
Market cap at campaign date(M\$)	21.0	55.3	148.3	477.3	5119.6
Total assets (M\$)	55.1	128.1	322.5	720.2	5570.8
Revenues (M\$)	18.5	71.3	198.4	690.2	4180.4
Number of employees	87	220	500	1576	10 500
ROA	0.0337	0.0088	-0.0024	0.0066	0.0776
ROE	0.0116	-0.0049	-0.0016	0.0110	0.0563
Tobin’s Q	0.8026	1.0336	1.2151	1.2377	1.6190
1-year share price return ^a	0.0714	-0.1520	-0.0702	-0.0250	0.1593

^aFrom 31 December, year $t-1$ to 31 December, year t .

Table 13: Median results of a set of descriptive variables at $t-1$ for the random sample firms, per quintile of market cap

	Q1	Q2	Q3	Q4	Q5
Market Cap at campaign date(M\$)	12.6	55.2	150.7	533.5	3642.0
Total Assets (M\$)	28.6	88.7	143.0	398.5	4558.5
Revenues (M\$)	17.2	43.1	84.9	398.4	2442.7
Number of employees	93	168	316	1074	5843
ROA	0.0149	0.0598	0.0481	0.0695	0.0761
ROE	-0.0009	0.0367	0.0684	0.0490	0.0901
Tobin’s Q	0.9493	1.2060	1.6159	2.0987	1.8500
1-yr Share price return ^a	-0.1429	-0.0359	-0.0136	0.1552	0.0596

^aFrom 31 December, year $t-1$, to 31 December, year t .

provides the same information for our random sample. The very different profiles of firms in each quintile in terms of operating performance (ROA, ROE, Tobin's Q) or stock market performance mean that mixing all of them to come up with some general conclusion is very hazardous.

In both the targeted sample and the random sample, the Quintile 1 (Q1) and Q2 firms are very small, have low Tobin's Q and/or poor 1-year share price performance. To the extent that these are the factors motivating hedge fund attacks, clearly the random sample firms would have been as likely to be targeted as the firms that were actually targeted. As for the Q5 firms, both the random sample ones and the Targeted ones show good operating performance and solid 1-year stock price performance. Whatever attracted hedge funds to these companies, their profile is not significantly different than the profile of the Q5 firms in our random sample.²

Clearly, the objectives and motives for targeting firms vary by quintile, as shown in Table 14. The smaller targeted firms of Q1 and Q2 are pushed to buy back shares and make some board change. The larger companies of Q4 and Q5 are targeted mainly for a sale or a spin-off of assets, with some governance/board claims as a preliminary step.

These features of hedge fund activism must be kept well in mind when statistical analyses

are carried out. For instance, the presence of a few very large companies in the sample translates in mean numbers that are not descriptive of the whole sample. Similarly, the very small size of some companies, often penny stocks traded over the counter, makes for very large variations in their operating performance and stock prices with the slightest addition to volume or improvement of performance (often in the 1000 per cent). Computing the mean improvement in performance will be unduly influenced by these very small companies.

Therefore, we shall make abundant descriptive use of medians throughout this article, as it is notably less influenced by extreme values. We shall report means on occasions but always with the above caveat in mind.

We have made a deliberate decision to keep the data analysis simple so that the reader who is not proficient in statistical analysis can get a real sense of the results. Not much is lost by not resorting to the standard machinery of multivariate statistics in situations like the present one where multiple dynamics are at play; too often these sorts of 'complex' analyses lead to an over-simplification of the phenomenon, a disconnect between the original data and the results produced by these 'sophisticated' analyses and a nagging feeling that the analysis has managed to obfuscate rather than clarify relationships.

Table 14: Percentage of firms targeted by activist hedge funds according to the stated objectives, by quintiles of market capitalization at intervention date^a

	Q1	Q2	Q3	Q4	Q5	Overall
Sell the company or asset restructuring	19.61	23.08	32.69	34.62	44.23	30.89
Governance structure or board change	23.53	42.31	28.85	28.85	19.23	28.57
Change in payout policy	29.41	15.38	19.23	15.38	7.69	17.37
Cost reduction	1.96	9.62	5.77	9.62	1.92	5.79
Omnibus	5.88	5.77	3.85	7.69	7.69	6.18
Other	17.65	1.92	3.85	0.00	7.69	6.18
Undisclosed or vaguely described	1.96	1.92	5.77	3.85	11.54	5.02
Total (%)	100.00	100.00	100.00	100.00	100.00	100.00

^aOwing to rounding, percentages may not always add up to 100 per cent.

ACTIONS TAKEN BY BOARDS AND MANAGEMENT AFTER THE ARRIVAL OF AN ACTIVIST HEDGE FUND

Whether at the urging of hedge funds (probable) or pre-emptively (possible) or as a result of their own analysis (doubtful), targeted companies show evidence of having taken singularly different actions than those observed in a comparable random sample of companies.

Survivorship

Hedge funds targeted 80 companies (see Table 5) with the explicit aim of getting the company sold or merged or some part of it spun off. Clearly, this intention has translated in far greater number of disappearing companies in the activist sample, as illustrated in Figure 2 and detailed in Table 15. The random sample shows a ‘normal’ attrition rate of some 16 per cent over 4 years but the number of firms in the activist sample drops by some 37 per cent in the same time period.

Some 81 companies were sold or merged over the 4 years after the arrival of an activist; in many cases the sale or merger was consummated very quickly. This number compares with the 36 companies of the random sample sold or merged during the same period. In addition, activists often call on management to sell off and liquidate ‘unprofitable business units

and product lines so that they no longer appeared on the balance sheets as idle or unproductive assets’ (Welker and Wood, 2011, p. S63); in our sample, 15 targeted companies sold off some assets and 7 did spin off a division.

R&D expenses

The median expenditures for research and development basically stalled then dropped before turning up in year $t+3$, a time when most activists have sold their stakes in the equity of the

Table 15: Survivorship of the firms: Activist and random sample

	<i>t</i> :	<i>t</i> +1	<i>t</i> +2	<i>t</i> +3	<i>t</i> +4 ^a
	<i>Event year</i>				
<i>Activist sample</i>					
Firms, beginning of year	259	244	206	191	174
Merged or sold	13	34	12	13	9
Bankrupt, liquidated or delisted	2	4	3	4	1
<i>n</i>	244	206	191	174	164
<i>Random sample</i>					
Firms, beginning of year	259	259	254	235	226
Merged or sold	0	4	17	8	7
Bankrupt, liquidated or delisted	0	1	2	1	1
Firms, end of year	259	254	235	226	218

^aAs of April 2015 for year $t+4$ of the 2011 samples.

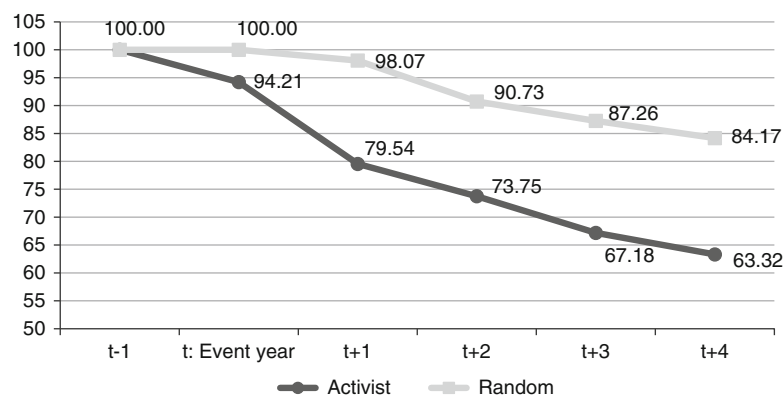


Figure 2: Number of surviving enterprises: Activist versus random base: 100 at $t-1$.

company. Meanwhile, median R&D expenditures for the random sample of firms did increase by over 20 per cent (Figure 3).

Asset level

The same pattern is observed with total assets (Figure 4), which captures the rate of investment/disinvestment of companies. Firms targeted by hedge funds basically stall in terms of total assets, with some resumption of growth by year $t+3$ (as most hedge funds have vacated the place). At that point in time, the firms in the random sample have increased their assets by more than 30 per cent.

Number of employees

Firms targeted by activists have barely maintained the level of employment while firms in the random sample were increasing

employment by some 15 per cent over the same period of time (Figure 5).

Number of shares outstanding

Similarly, the number of shares outstanding remains constant, with a small increase in the third year (Figure 6). However, a sharp drop in shares outstanding occurs in the sub-group of firms targeted for an increase in payout. Meanwhile, the number of shares in the random sample of firms increases by more than 9 per cent.

Turnover rate of CEOs

The data show a large difference in the rate of CEO turnover between the activist sample and the random sample, particularly beginning in the year when activists show up (Figure 7). The rate returns to 'normal' at $t+3$.

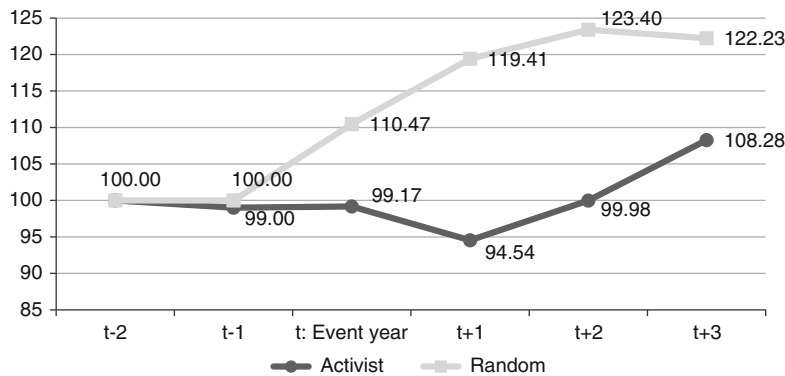


Figure 3: Median results, R&D expenses ($t-2 = 100$) (surviving firms).

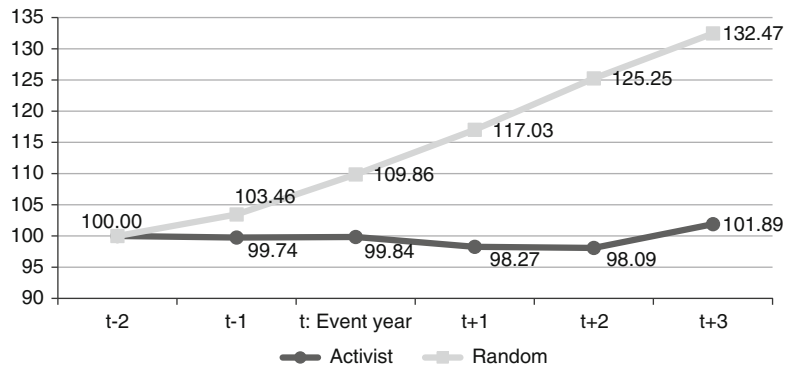


Figure 4: Median results, total assets ($t-2 = 100$) (surviving firms).

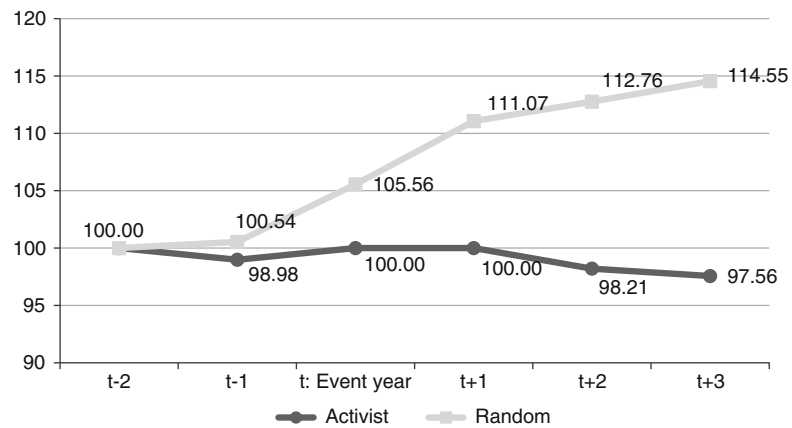


Figure 5: Median results, number of employees ($t-2 = 100$) (surviving firms).

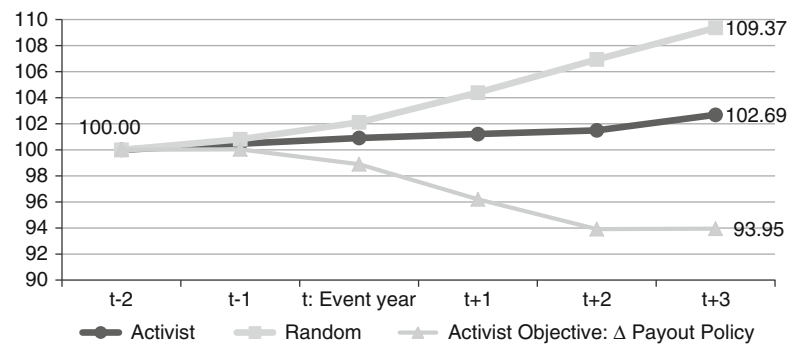


Figure 6: Median results, number of shares ($t-2 = 100$) (surviving firms).

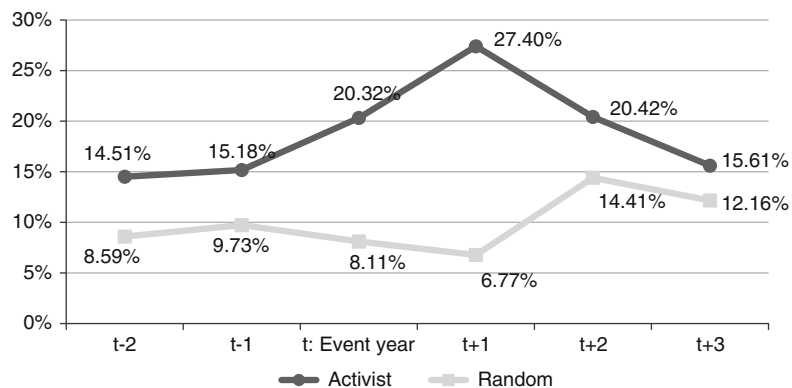


Figure 7: Turnover rate of CEOs.

Turnover rate of CFOs

As with CEOs, the CFOs of targeted companies are replaced at a high rate immediately upon activists showing up as shareholders and goes back to ‘normal’ rate by $t+3$ (Figure 8).

Conclusions on actions taken

As a broad generalization, which will be refined later on when we examine the results in relation with the stated objectives of hedge funds, the Targeted firms, as compared with a random



sample, show a much higher rate of companies sold or merged, as well as a rate of CEO and CFO change that far exceeds what is observed in a random sample of comparable firms.

Our data also shows that the median Targeted firm reports a reduced or stalled R&D and total assets, no increase in employment and a slightly decreasing shareholder base, all of this in surviving firms.

The issue of course is whether the regimen advocated by activists has made targeted firms more efficient and healthier, and boosted their stock price.

OPERATING PERFORMANCE

Several studies (Clifford, 2008; Becht *et al*, 2009; Bebchuk *et al*, 2013, 2015; Goodwin, 2014; Gow *et al*, 2014; Fos, 2015) of hedge fund

performance examine their impact on three operating ratios: ROA, Tobin's Q (the ratio of the market value of the company to its book value, sort of) and return on shareholders' equity (ROE). Let us examine these operating ratios for our double sample.

Figure 9 maps out the results for ROA. The activist sample of companies is showing some slight improvement in ROA when compared with the year before their arrival ($t-1$). The random sample's median ROA remains pretty constant but is still higher at year $t+3$ than the activist sample's ROA.

But this 'improvement' in ROA is not found in all quintiles of the Targeted firms. Figure 10 tells us that the ROA performance for firms in Q5 and Q2 has deteriorated slightly while the Q4 firms have seen their ROA move up substantially at $t+1$.

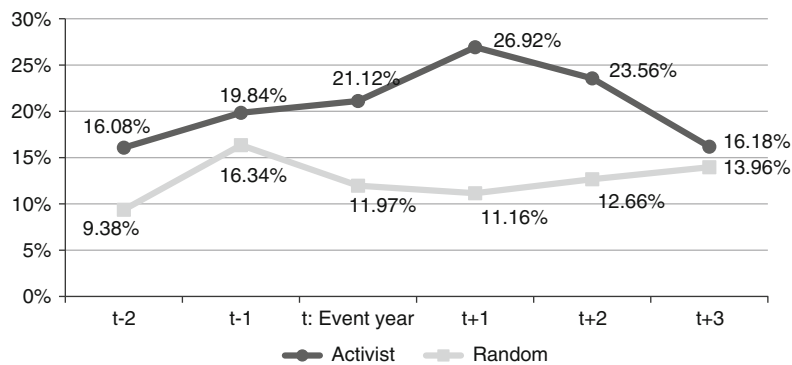


Figure 8: Turnover rate of CFOs.

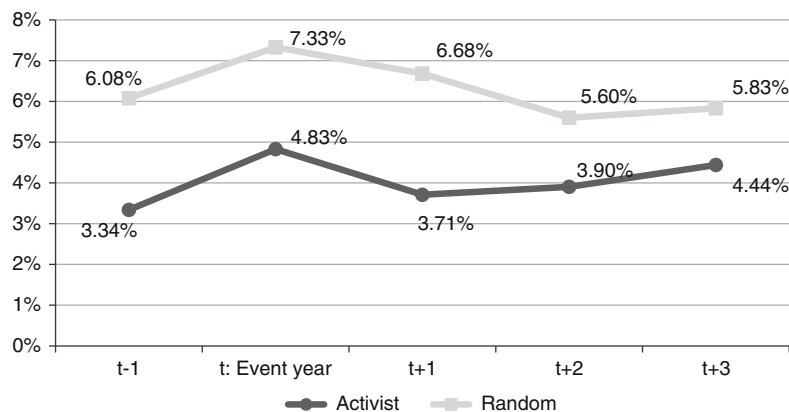


Figure 9: Median results, ROA (surviving firms).

As for Tobin's Q, the activist sample shows improvement at year $t+2$ when it reaches the level of Tobin's Q observed for the random sample (Figure 11).

Figure 12 presents the results for Tobin's Q per quintile. It shows the same basic pattern for all quintiles.

Digging into the data to understand this improvement of Tobin's Q at year $t+2$, we find a significant relationship with the level of assets; that is, the increase in Q correlates with a decrease in the book value of assets (equity plus liabilities) [$r = -0.24$; $P < 0.001$].

As Tobin's Q is computed as the ratio of the market value of assets (actually, in practice, market value of equity plus book value of liabilities) divided by the book value of assets, any decrease in the denominator, keeping the market value of the equity constant, will improve Q. Cutting down on capital expenditures, selling some assets, buying back shares will produce this result, as we find out in this study (see Figure 4).

Indeed, a number of companies were targeted where the intent of the hedge fund was to get the company to buy back its shares. Some

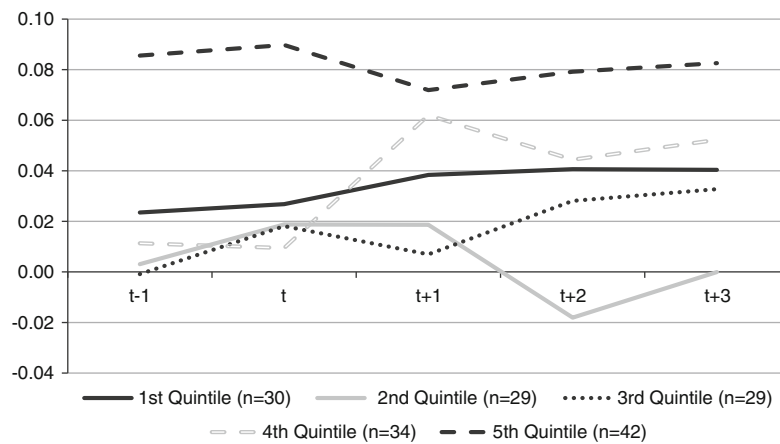


Figure 10: ROA, median results for the targeted firms, per quintile (surviving firms).

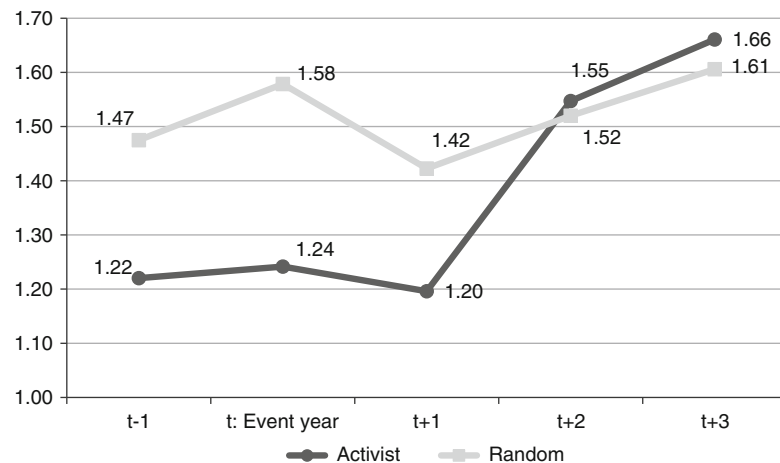


Figure 11: Median results, Tobin's Q (surviving firms).

63 companies did buy back some of their shares. Any share buyback will decrease the book value of equity, more so if bought back at a price higher than the book value per share. We find a significant correlation ($r = -0.33$; $P < 0.001$) between a decrease in the number of shares in circulation and increase in Tobin's Q for these 63 firms.

As for ROE, the same pattern is observed as with ROA (Figure 13). There is a systematic improvement each year although the median of the activist sample does not quite match the performance of the random sample. Again,

companies that bought back some of their shares thus decreasing the book value of their equity will show improved ROE.

Conclusions on operating performance

One might conclude that, under the prodding of activist hedge funds, targeted firms have improved significantly their operating performance. But the improvements mapped out in Figures 9, 11 and 13 largely reflect the stalled level of assets and the reduced base of share-

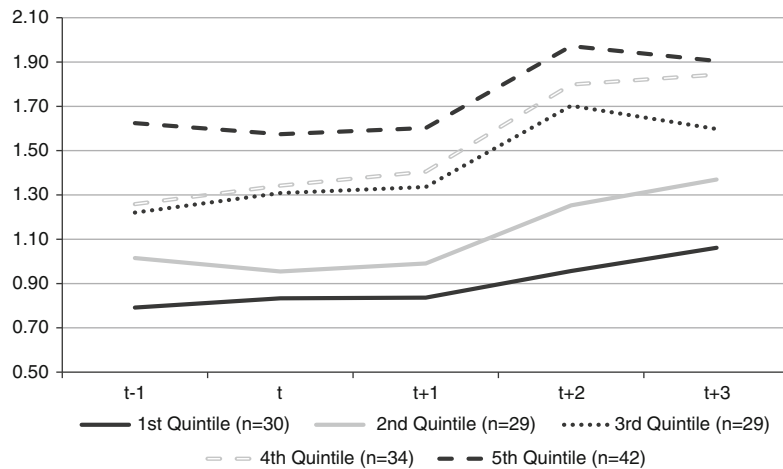


Figure 12: Tobin's Q, median results for the targeted firms, per quintile (surviving firms).

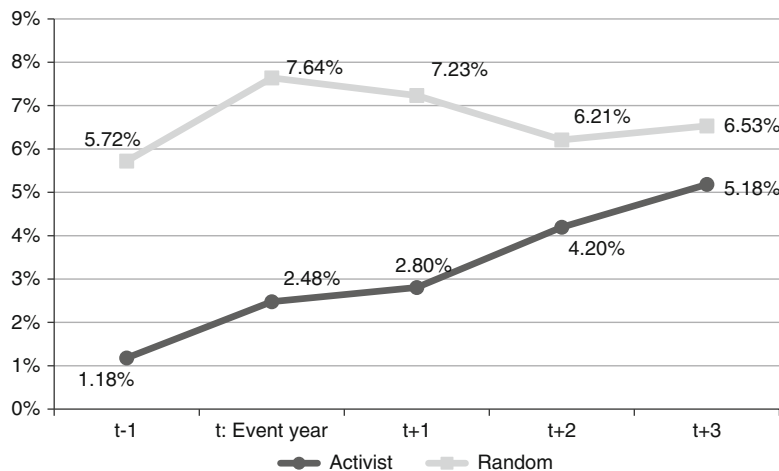


Figure 13: Median results, ROE (surviving firms).

holders' equity from share buybacks for a good number of companies.

Indeed, these operating metrics, although widely used, are not reliable measures of a firm's true performance as they can be improved by selling assets, buying back shares, limiting or reducing investments. But let us illustrate this point more tangibly by examining the goings-on at one firm close to the median of the 'targeted firms'.

THE MEDIAN FIRM ... FROM THE 2011 SAMPLE – THE DSP GROUP

Starboard Value (2011) announced on 22 August 2011 that it had taken a 9.1 per cent position in the common equity of DSP Group (*a leading global provider of wireless chipset solutions for converged communications*). The fund's stated objective was classified as 'omnibus': in its view, the board should immediately retract the poison pill (governance related objective); the company should reduce spending on non-core growth (cost reduction); and should hire an investment bank to explore strategic alternatives, including a sale (sell the company).

Starboard in its letter to management states: 'The current strategy of investing heavily in research and development in pursuit of revenue growth in non-core products has failed to produce positive results and has led to significant deterioration in overall profitability' (Letter to the CEO and board of directors of DSP Group from Starboard Value, 22 August 2011).

The management of DSP Group fought hard against the hedge fund. But, in March 2012, to placate the hedge fund somewhat, DSP announces a share buyback programme and agrees to bring to its board two nominees of Starboard. As the stock price of DSP does not move up (in fact by 31 December 2012, it is down almost 10 per cent from the price on 22 August 2011), Starboard in 2013 launches a full-fledged proxy fight to have a majority of its nominees sit on the board.

Despite the support of all three proxy advisory firms *for the management nominees*, the

company made a deal with Starboard whereby it would get four of its nominees on the board. While fighting the good fight against Starboard, taking the fund to task for its myopia on R&D expenses and so forth, management is, willy-nilly, implementing some of the actions that the hedge fund is advocating. Our Table 16 shows clearly the sharp drop in R&D expenses in 2012 before the hedge fund had acquired much formal leverage over the management of the company.

The market value of the company has indeed improved but management claims it is the result of programs it would have implemented irrespective of the hedge fund's agitation. More likely, as other funds were showing a strong inclination to side with Starboard Value in the 2013 proxy fight, thus giving the hedge fund control over the company, management had few options but to make a deal and act along the lines of the wishes of the hedge fund. Be that as it may, the company is now a much smaller company in terms of sales, assets, employees; it spends barely more than half on R&D as compared with 3 years earlier; whether it is in the best position to cope with its long-term challenges remains to be seen but the stock market, in its infinite wisdom, likes what was done to the company. [Although by 5 August 2015, the market value of the company had dropped to \$183 million, essentially the value of the company at $t-1$ (that is, the year before the activist intervention).]

At any rate, Starboard provides a good example of how activist hedge funds make money by timing well their entry and exit (see Figure 14). By December 2014, Starboard had sold most of its shares of DSP; it had done very well indeed for its fund and still has four of its nominees on the board of DSP (out of nine members).

This case, a fairly typical one, shows the complexity of assessing the impact of hedge fund activism in the long term. Each situation is somewhat different; the interaction, the chess match, between the company's management and the hedge fund is made of moves and

Table 16: Mapping of a firm from the activist sample: The DSP group

	31 December 2010 (<i>t</i> -1)	31 December 2011 (<i>t</i>)	31 December 2012 (<i>t</i> +1)	31 December 2013 (<i>t</i> +2)	31 December 2014 (<i>t</i> +3)
Sales (<i>t</i> -2 = 100)	106.27	91.36	76.36	71.19	67.41
R&D (<i>t</i> -2 = 100)	99.00	94.83	75.76	62.34	59.61
Assets (<i>t</i> -2 = 100)	101.27	89.21	84.26	87.49	86.99
Employees (<i>t</i> -2 = 100)	101.22	96.58	77.51	72.62	N/A
Shares (<i>t</i> -2 = 100)	101.54	98.26	94.64	97.59	94.06
ROS ^a	-0.0325	-0.0836	-0.0492	0.0179	0.0252
AT ^b	1.3540	1.2280	1.1194	1.0431	0.9729
ROA (ROS*AT)	-0.0440	-0.1026	-0.0551	0.0187	0.0245
Tobin's Q	1.1327	0.7888	0.8778	1.4722	1.5969
ROE ^c	-0.0446	-0.1029	-0.0553	0.0185	0.0245
Market Cap at year end (\$ millions) ^d	189.28	117.24	124.84	217.02	234.14
Cash and STE ^e per share	2.7496	2.1715	1.9381	1.6801	1.5169
CASPR ^f	N/A	-0.3599	-0.1588	0.0605	0.0750
Economic profit (ROA*Assets) (\$ millions)	-9.80	-20.12	-10.20	3.59	4.68

^aROS = Net Operating Profit After Tax (NOPAT)/Sales.

^bAT = Revenues/(average shareholders' equity+average interest-bearing debt).

^cROE = Net Income/average shareholders' equity.

^dOn 22 August 2011, the announcement date, the market cap was 152.95.

^eCash and STE = Cash and short-term equivalents.

^fCASPR = Compounded Annual Stock Price Return, from 31 December, year *t*-1, to 31 December, year *t*+*n*.

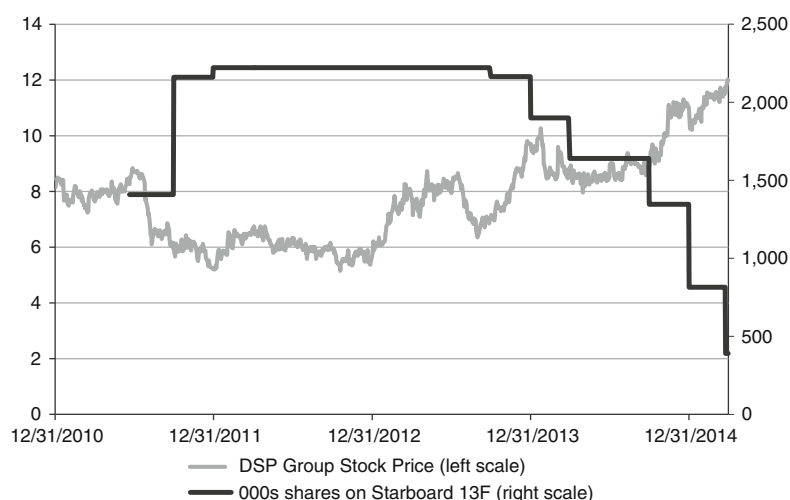


Figure 14: DSP group historical share price and shares held by starboard according to its 13F filings from 31 December 2010 to 31 March 2015.

counter-moves. The hedge fund's goal is to make money as quickly as possible and it will stick around just long enough to achieve a good rate of return. What happens to the company after

their departure is of little concern to them. Typically, after the departure of the hedge fund, the management and the board of the company will assess the situation and resume managing the

company for the longer term. That is, if the threat of another attack is not likely or imminent.

STOCK MARKET PERFORMANCE

Obviously, the main selling point for hedge fund activism is the claim that it generates high returns. But that statement is ambiguous. As we illustrated with the case of the DSP Group, activist hedge funds, by timing their entry and exit of a stock, by using derivatives and leverage to enhance their yield, by benefiting from the ‘control’ premium on getting companies sold off, may well achieve highly positive results.

For instance, Table 17 shows the large gains realized by hedge funds from getting targeted companies sold off.

Greenwood and Schor (2009) had already concluded that the returns of activist hedge funds were largely explained by the ability of activists to force target firms into a takeover.

That hedge funds may achieve high returns from their activities is not the issue, although that is the feature that brings so many pension funds and other institutional investors to channel money to these activists. Overall, what should concern society and all shareholders should be the operating and stock market performance of targeted companies.

Let us suppose one would, on 31 December of the year before activist hedge funds showed up (31 December 2009 for the 2010 cohort and 31 December 2010 for the 2011 cohort), have

bought shares in all targeted companies and at the same time had purchased shares in all the companies in our random sample. What would be the comparative performance of these two (unweighted) ‘portfolios’ over the 3 years? That is a salient question.

We computed the share price returns by using three different methods: (i) the compounded annual returns for all firms still in the sample on 31 December in each of the 3 years following the intervention year [labelled *listed firms at year end*]; (ii) the compounded annual returns on 31 December of the 3 years following intervention year, but only for the surviving firms at $t+3$, thus comparing the returns of the same companies over time [labelled *surviving firms*]; and (iii) the compounded annual returns for all firms still in the sample on 31 December of the 3 years following intervention year, but factoring in the annualized returns of the firms

Table 17: Compounded annual return to activist hedge funds from getting targeted firms sold off

Centile	Percentage
25th	15.47
50th	32.76
75th	73.91
90th	155.23
Mean ($n = 74$) ^a	59.00

^a81 firms were sold or merged. The terms of the transactions made it impossible to compile the data for seven of these cases (for example, exchange of shares, price paid in both shares and dollars and so on).

Table 18: Median results, compounded annual stock price returns and comparison of several methods

From 31 December $t-1$ to	<i>Listed firms at year end</i>		<i>Surviving firms</i>		<i>All firms, even sold off</i>	
	<i>Activist sample</i>	<i>Random sample</i>	<i>Activist sample</i>	<i>Random sample</i>	<i>Activist sample</i>	<i>Random sample</i>
31 December, t : Event year	-0.0094	0.0075	-0.0180	0.0135	-0.0004	0.0075
n	241	255	161	219	246	255
31 December, $t+1$	0.0091	0.0205	0.0111	0.0257	0.0332	0.0247
n	208	250	161	219	238	253
31 December, $t+2$	0.1007	0.0728	0.0901	0.0730	0.1007	0.0749
n	189	229	160	219	205	241
31 December, $t+3$	0.0906	0.0704	0.0909	0.0722	0.1056	0.0726
n	176	220	159	218	188	227

Table 19: Mean results, compounded annual stock price returns and comparison of several methods

From 31 December, $t-1$ to	Listed firms at year end		Surviving firms		All firms, even sold off	
	Activist sample	Random sample	Activist sample	Random sample	Activist sample	Random sample
31 December, t :Event year	0.0118 ^a	0.1513	0.0023 ^a	0.1787	0.0301 ^b	0.1513
n	241	255	161	219	246	255
31 December, $t+1$	-0.0022	0.0408	0.0053 ^b	0.0488	0.0328	0.0436
n	208	250	161	219	238	253
31 December, $t+2$	0.0684	0.0721	0.0666	0.0826	0.0740	0.0787
n	189	229	160	219	205	241
31 December, $t+3$	0.0816	0.0709	0.0857	0.0775	0.0909	0.0713
n	176	220	159	218	188	227

^aDifference between the means (activist–random, same year, same method) is statistically significant at the 1 per cent level.

^bDifference between the means (activist–random, same year, same method) is statistically significant at the 5 per cent level.

sold during a given year³ [labelled *all firms, even sold off*].

Table 18 presents the median results of these computations and in Table 19 the mean results. Overall, median results for *targeted and random companies* show that they were performing generally poorly and both improved significantly over the next years.

The mean performance of targeted companies after 2 years or 3 years is *not significantly different from the stock performance of a random sample of companies*. Neither 'portfolio', because of their industry make-up, could match the performance of broad indices (Table 20).

The large difference in favour of the random sample at $t = \text{event year}$ reflects the sensitivity of averages to a few extreme cases.⁴

Figure 15 shows that stock price performance also varies widely by quintile, with the second and third quintile showing the largest appreciation.

To further capture the dynamics of stock price appreciation for our two samples, we computed the relationship between the stock price of each firm at $t-1$ (the year before the arrival of the hedge fund) and the stock price at $t+3$.

Table 21 shows that about a quarter of both samples had stock prices at $t+3$ that were inferior to their stock price at $t-1$, a very significant result.

About a third of both samples of companies had seen a doubling (or more) of their stock

Table 20: Compounded annual index returns for the period^a $t+1$ to $t+3$

	$t+1$	$t+2$	$t+3$
S&P 500	0.064	0.114	0.133
Dow Jones Industrial	0.072	0.106	0.118
NASDAQ	0.069	0.135	0.160
RUSSELL 2000	0.062	0.126	0.138
Activist sample ^b	0.033	0.074	0.091
Random sample ^b	0.044	0.079	0.071

^aAverage return, weighted by the number of firms in the samples per year.

^bMean returns with the third method: All firms, even the ones that were sold off.

Table 21: Distribution of firms by increase in market value^a (surviving firms)

	Targeted firms ($n = 153$) (%)	Random sample ($n = 209$) (%)
$\Delta MV < 100$	28.10	23.44
$100 > = \Delta MV < 110$	5.88	4.31
$110 > = \Delta MV < 125$	5.23	6.22
$125 > = \Delta MV < 140$	6.54	8.61
$140 > = \Delta MV < 175$	15.69	14.35
$175 > = \Delta MV < 200$	5.23	9.57
$\Delta MV > 200$	33.33	33.49
Total	100	100

^a(Market value at $t+3$ /Market value at $t-1$) \times 100.

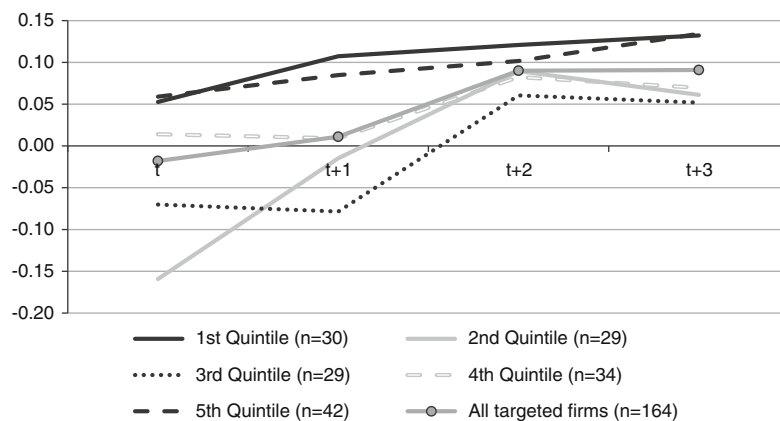


Figure 15: Compounded annual stock price returns ($t-1$ to $t+n^*$) and median results for the targeted firms, per quintile (surviving firms).
*Where n varies from 0 to 3.

Table 22: Median results of a set of descriptive variables at $t-1$ for the firms targeted with the objective ‘Sell the company or asset restructuring’ ($n = 80$)

Market cap at campaign date(M\$)	308.4
Total assets (\$ millions)	810.5
Revenues (\$ millions)	494.4
Number of employees	1950
ROA	0.0409
ROE	0.0093
Tobin’s Q	1.1569
1-year share price return ^a	-0.0105
Number of firms sold	33
Number of firms who completed a spin-off or sold significant assets (divisions)	6
Number of activists who still had a stake in the targeted firm at $t+3$	10

^aFrom 31 December, year $t-1$ to 31 December, year t .

price in the same period. It is striking how the performance of the random sample matches the performance of targeted companies.

STOCK MARKET PERFORMANCE FOR DIFFERENT OBJECTIVES OF HEDGE FUNDS

Table 5 has shown the very different objectives put forth by activist hedge funds as they make public their intentions.

Companies targeted for a sale

For instance, it shows that in some 80 cases, the activist hedge funds were urging a sale of the

company or some asset restructuring. Table 22 shows the median characteristics of these 80 targeted companies. These were substantially larger companies than for the whole sample. It also shows that 33 of these companies were sold off (or 40 per cent), 6 were the object of spin-off or asset restructuring. In 10 cases, the activist funds were still on board by the end of the study period.

However, actually 81 companies in our targeted sample were effectively sold off. Table 23 shows what were the objectives stated by activist hedge funds when they launched their campaign. Of course, as we already saw, some 33 had been clearly targeted for a sale, but for 48 other cases different objectives stated by the activists eventually led to a sale of the company.

We have already examined the returns and impact on stock market performance of the companies that were sold off (see Tables 17, 18 and 19).

The 75 companies where the activist hedge fund sought changes to governance structure or to the board

Hedge funds listing change to governance as their purpose ended up being unsuccessful a third of the times and managed to get board representation a quarter of the times (Table 24). They got the company or substantial assets sold in 18 per cent of the cases (although this was not stated as their objective). Finally, they did get some changes in governance or the CEO replaced in a fifth of the cases.

However, as documented in Table 25, despite the 'initiatives' fostered on them by hedge funds the stock market performance of these targeted companies was mediocre at best.

The 45 companies where the activist sought to have them increase payout by buying back their shares or paying a special dividend.

Table 26 shows the statistics for the subset of 45 targeted firms, where the objective of the hedge fund was to increase payout. These are quite small companies (median market cap of \$78 million and median revenues of \$49 million) showing fair operating results but with a poor Tobin's Q (0.90) and considerable cash on their balance sheet (some \$3.42 per share).

Table 23: Stated objectives for targeted firms that were eventually sold or merged

	<i>n</i>	<i>Percentage of firms targeted with objective</i>	<i>Percentage of firms sold</i>
Sell the company or asset restructuring	33	41.25	40.74
Governance structure or board change	17	22.97	20.99
Change in payout policy	12	26.67	14.81
Cost reduction	6	40.00	7.41
Omnibus	4	25.00	4.94
Other	5	31.25	6.17
Undisclosed or vaguely described	4	30.77	4.94
Total number of companies sold	81	—	100.00

Table 24: Final outcome of campaigns where activist hedge fund sought changes to governance structure or to the board

<i>Final outcome</i>	<i>n</i>	<i>Percentage of firms in sub-group</i>
Change to governance structure	10	13.51
Company was sold ^a	9	12.16
Change of CEO	5	6.76
Assets were sold	4	5.41
Change to payout policy	1	1.35
Company filed for bankruptcy	1	1.35
Board representation (as the only public outcome)	19	25.68
Activist was unsuccessful	25	33.78
Total	74	100.00

^aAnother eight companies were also sold but not as a result of the campaigns of 2010 or 2011; these were classified as 'unsuccessful'.

Hence, the appeal for hedge funds to come on board and push for increasing payout to shareholders to boost share price. Did it work?

Table 27 shows a strong, sustained compounded annual share price return for the 3 years but it must be pointed out that the stock market performance of these companies for the year of the hedge fund's arrival was already quite strong (median 11.2 per cent; mean 19.7 per cent). Indeed the mean share price return drops from time = t to time = $t+3$.

It is unknown how their stock price would have behaved without a share buyback programme.

The performance of the five most active funds

The five most active hedge funds carried out some 67 campaigns against targeted firms.

Table 25: Median and mean share price annualized returns (Sub-group of firms where activist hedge fund sought changes to governance structure or to the board (listed firms method))

	t	$t+1$	$t+2$	$t+3$
Median	-0.0699	-0.0579	0.0332	0.0512
Mean	-0.0385	-0.0371	0.0279	0.0381
n	71	68	61	58

Table 26: Median results of a set of descriptive variables at $t-1$ for all targeted firms and the subset of 45 firms targeted with an objective of increasing payout

	<i>Activist sample (total N = 259)</i>	<i>Activist sample, only firms targeted with an objective of Δ payout policy (N = 45)</i>
Market cap (\$ millions)	171.03	78.31
Total assets (\$ millions)	374.15	326.87
Revenues (\$ millions)	189.21	48.68
ROS	0.0197	0.1056
ROA	0.0245	0.0403
ROE	0.0072	0.0224
Tobin's Q	1.1569	0.8986
Cash and Short-term equivalents per share	2.2760	3.4250
1-year share price return ^a	-0.0094	0.1120

^aFrom 31 December, year $t-1$, to 31 December, year t .

Compared with the overall sample, these activists tended to target larger firms and hold their position for a longer period of time (Table 28).

The stock market performance of the companies they targeted appears to have been better than that of other activists, significantly so in several cases, as reported in Table 29.

Other interesting statistics about the Top 5 funds: 31.8 per cent of firms were targeted with a stated objective of a change in the payout policy, 25.8 per cent were targeted with the objective to sell the company or spin off a division and the Top 5 resorts to the threat of a proxy fight or actually launches a proxy fight as main tactics to pursue their objectives (45.5 per cent of cases were targeted using both tactics).

Table 27: Share price return for a subsample of firms targeted with an objective of Δ payout

	<i>From 31 December, year $t-1$ to</i>	<i>31 December, t: Event year</i>	<i>31 December, $t+1$</i>	<i>31 December, $t+2$</i>	<i>31 December, $t+3$</i>
Median	0.1120	0.1292	0.1507	0.1416	
Mean	0.1967	0.1141	0.1265	0.1238	
n	45	45	42	41	

Table 28: Five most active hedge funds: Descriptive statistics

<i>Variables</i>	<i>Median</i>	<i>Mean</i>
Stake ownership at announcement	8.3%	8.7%
Holding Period (days) ^a	511.5	609.7
Market cap of target firms at announcement (\$ millions)	206.4	2563.8
Tobin's Q of targeted firms at $t-1$	1.16	1.45
ROA of target firms at $t-1$	0.0379	0.0203

^aIn 27.3 per cent of the cases, the activist hedge funds still had a stake in the targeted firm as of April 2015.

Table 29: Top five activists' compounded annual stock price return (listed firms method) (compared with other activists and random sample)

<i>From 31 December, year $t-1$ to</i>	<i>31 December, t: Event year</i>	<i>31 December, $t+1$</i>	<i>31 December, $t+2$</i>	<i>31 December, $t+3$</i>
<i>Top 5 activists</i>				
Mean	0.0937	0.0433	0.1377	0.1295
Median	0.0174	0.0572	0.1379	0.1328
<i>n</i>	61	56	52	49
<i>All other activists</i>				
Mean	0.0051	-0.0125	0.0446	0.0589
Median	-0.0400	-0.0217	0.0858	0.0699
<i>n</i>	184	156	141	131
<i>t-test, difference between means</i>				
<i>t-stat (Top 5 – Other)</i>	1.1760	1.1396	2.6040 ^a	2.0817 ^b
<i>Significance</i>	0.1212	0.1285	0.0052	0.0198

^aDifference between the means is statistically significant at the 1 per cent level.

^bDifference between the means is statistically significant at the 5 per cent level.

The performance of the largest targeted firms (Top 20 per cent in market cap value)

These largest companies present a different pattern of statistics with median market cap of \$5.1 billion and \$3.6 billion, respectively, for the activist sample and the random sample (Table 30). At the median, they exhibit rather positive operating and stock market performance the year before being targeted.

The objectives of hedge fund when targeting these larger companies are also different with a large majority advocating either the sale of the company (or spin-off of assets) or a change to its governance or board of directors (Table 31). Indeed, nine firms in this group were eventually sold off.

However, the share price performance for this sub-group of large companies, shown in Table 32, indicate a strong performance but not one that is statistically better than the performance of a random sample of companies.

Target firms where activist hedge fund obtained at least one board seat

Even if not formally requested by hedge funds at the time of the public announcement of their equity participation, in 79 cases, the hedge funds got to nominate at least one member of the board of a targeted company.

Table 33 presents the operating performance and stock market performance of these

Table 30: Median results of a set of descriptive variables at $t-1$ for the targeted firms and the random sample in the 5th quintile of market cap at t : Event year (larger firms)

	<i>Activist sample</i>	<i>Random sample</i>
Market Cap (\$ millions)	5119.6	3642.0
Total Assets (\$ millions)	5570.8	4558.5
Revenues (\$ millions)	4180.4	2442.7
ROS	0.0615	0.0717
ROA	0.0776	0.0761
ROE	0.0563	0.0901
Tobin's Q	1.6190	1.8500
1-year share price return ^a	0.1593	0.0596

^aFrom 31 December, year $t-1$, to 31 December, year t .

companies. The results indicate a compounded annual return of 5–6 per cent after 2 years, a mean ROA that remains negative, a Tobin's Q that shows some improvement. In all cases, these results are not better, and in a few cases, worse than those of a random sample.

CONCLUSIONS ON STOCK MARKET PERFORMANCE

Overall, the stock price performance of companies targeted by hedge funds tends to show some improvement over a couple of years after the arrival of these funds. The standard set of actions they urge on companies are well

Table 31: Activist hedge funds' stated objectives for the targeted firms in the 5th quintile of market cap at t : Event year (larger firms)

<i>Stated objectives</i>	<i>n</i>	<i>Percentage of firms in quintile</i>
Sell the company or asset restructuring (including spin-off)	23	44.23
Governance structure or board change	10	19.23
Change in payout policy	4	7.69
Cost reduction	1	1.92
Omnibus	4	7.69
Other	4	7.69
Undisclosed or vaguely described	6	11.54
Total	52	100.00

Table 32: Targeted firms in the 5th quintile of market cap at t : Event year (larger firms) (Compounded annual stock price return (CASPR) (listed firms method))

	<i>From 31 December, year $t-1$ to</i>	<i>31 December, t: Event year</i>	<i>31 December, $t+1$</i>	<i>31 December, $t+2$</i>	<i>31 December, $t+3$</i>
<i>Target firms in 5th quintile of market cap</i>					
Mean		0.0871	0.0241	0.1033	0.1238
Median		0.1593	0.0757	0.1028	0.1358
<i>n</i>		49	43	42	41
<i>Random firms in 5th quintile of market cap</i>					
Mean		0.1276	0.0474	0.0809	0.0940
Median		0.0596	0.0583	0.0746	0.0852
<i>n</i>		50	50	48	48
<i>t-tests, difference between means</i>					
<i>t</i> -stat (Activist – Random)		-0.6198	-0.5379	0.6833	0.8965
Significance		0.2684	0.2962	0.2485	0.1867

Table 33: Target firms where activist hedge fund obtained at least one board seat (Operating and stock market performance (listed firms method))

	<i>t: Event year</i>	<i>t+1</i>	<i>t+2</i>	<i>t+3</i>
<i>CASPR, from 31 December, year t-1 to 31 December, year t+n (listed firms method)</i>				
Mean	-0.0022 ^a	-0.0353 ^b	0.0553	0.0689
Median	-0.0468	-0.0144	0.0666	0.0655
<i>ROA</i>				
Mean	-0.0375	-0.0322 ^b	-0.0402	-0.0870
Median	0.0062	0.0186	0.0187	0.0266
<i>Tobin's Q</i>				
Mean	1.5035 ^b	1.4855	2.1055	2.2170
Median	1.2189	1.1544	1.4722	1.8871
<i>n</i>	79	69	63	52

^aDifference between the means (activist sample with board seat – random) is statistically significant at the 1 per cent level.

^bDifference between the means (activist sample with board seat – random) is statistically significant at the 5 per cent level.

Note: In all instances where the differences are statistically significant, the mean of the activist sample is inferior to the mean of the random sample.

received by the stock market. But, as shown in Table 20, the increase (or decrease) in market value of targeted firms maps closely what happened to a random sample of firms over the same period.

Furthermore, the stock market performance of targeted companies varies widely according to the objective pursued or the nature of the funds. Getting companies merged or sold off is a clear driver of hedge fund performance. The targeted companies where hedge funds were calling for increased payout (usually through shares buyback) show strong stock market performance overall, although these targeted companies were already doing well in the year the hedge funds came on board.

Also, the most active hedge funds seem to do a better job of extracting returns from targeted companies.

Larger targeted companies show good stock market performance but not really better than that of a random sample of large companies.

Getting at least one of their nominees on the board of a targeted company does not seem to

translate into a better stock market performance for the company.

Given that the average holding period of these activists is some 1.5 years, it is questionable to attribute to hedge funds any improvement in performances 3 years after their intervention.

It appears that companies are fairly resilient and those that are not sold off seem to show evidence that management tries to pick up where they had left off with the arrival of the hedge fund.

CONCLUDING OBSERVATIONS AND DISCUSSION

We had formulated a number of research objectives for this study:

- Describe the contemporary tactics and objectives of activist hedge funds as well as the actions taken by targeted companies as a result of their intervention

- Explore the consequences of activism over time when compared with a random sample of firms with similar characteristics at the time of intervention (effects on operational performance and share price returns)
- Analyse the singularities associated with salient sub-groups of targeted firms

We believe these objectives were achieved. What conclusions may be drawn from this study?

First, the small size of the companies targeted by activist hedge funds is striking. Of course, there are a number of large ones that get the lion share of media attention but the fact that 15 per cent of the companies targeted in 2010 and 2011 by 'activists' were traded over the counter (so called 'pink sheets') rings a number of alarm bells. From a research standpoint, it calls for great care in reaching conclusions as to improvement in operating and stock market performance. It certainly invites to caution in assessing the reported performance of hedge funds that make it their business to target these very small companies.

Our study, similar to several others, show that the best way, bar none, for these activists to make money for their funds is to get the company sold off or substantial assets spun off.

We have shown pretty clear and compelling evidence that the much vaunted 'improvements' in operating performance (ROA, ROE, Tobin's Q) result in good part from some basic financial manoeuvres (cutting R&D, selling assets, cutting capital expenditures, buying back shares and so on).

Because of the stock market's focus with these sorts of ratios (and earnings per share), the market value of the targeted companies tend to increase moderately. However, in several cases, the stock market performance of targeted companies is no better than that of a matched random sample.

However, there is no overwhelming evidence of deterioration either. That is not a result that owes to the forbearance of activists. What happens to the company after their

departure is of little concern to hedge funds. For a time, boards and management manage their company to please the activist investor: new or increased share repurchase programs, workforce reduction, cuts in R&D and SG&A expenses, sell all assets generating only 'low' profitability, stop all expansion plans and so on. All these measures have a catalyst effect on the financial ratios followed by the markets. If the CEO or CFO is opposed to this course of action, chances are this person will be looking for a new job quite rapidly after the activist's arrival.

Typically, after the departure of the hedge fund, the management and the board of the company will assess the situation and resume managing the company for the longer term. That is, if the threat of another attack is not likely or imminent.

To really understand what is happening when a hedge fund targets a company and after the fund departs (assuming the company has not been sold in the process), one should delve into the specifics of each situation: the interaction, the chess match, between the company's management and the hedge fund is dynamic, made of moves and counter-moves as illustrated above by the short description of the *DSP Group's* experience.

The varying objectives and tactics of hedge funds and the distinctive profiles of targeted firms result in several different clusters of activism, which, when merged, make it nary impossible to understand the consequences and performance of this form of activism. Studies mixing a large number of instances of activism across a long period of time are bound to produce misleading results.

Whatever their ultimate goal, hedge funds may begin by seeking board representation and will not hesitate to launch a proxy fight to achieve their immediate goal; in the process, they will disparage current management and board members; once represented on the board, they will pursue their real objective and call for change of the CEO or the CFO (or both) if not compliant enough.

In general, the stock's performance of targeted companies over a 3-year span barely matches the performance of a random sample of companies. But the *activist hedge funds*, by timing their entry and exit of a stock, by using derivatives and leverage on occasion to enhance their yield, by benefiting from the 'control' premium on getting companies sold off, may well achieve highly positive results.

The real beneficiaries of the actions of these hedge funds are the *fund managers themselves and their investors, largely institutional investors and pension funds*, which of course supply tons of money to these activists.

For targeted companies, the most immediate consequence is the likelihood of being sold off. *We shall never know whether these sold-off companies could have developed into industrial champions on their own.* For other targeted companies, this hedge fund episode often results in change of senior management and board members, cuts in people, stagnating capital expenditures and R&D; while not lethal over the short period of time that these hedge funds hang around, *companies come out of the experience as shrunken firms that may have lost a couple of years to their competitors.*

Discussion

The most fundamental issue raised by the phenomenon of hedge fund activism is the crucial assumption that underpins their activities (or at the very least underpins the advocates' arguments in their favour), that is:

Outsiders analysing financial data from afar can determine that a company is not managed so as to maximize value for its shareholders and that some specific actions they have identified should be taken that would benefit shareholders and would be in the long-term interest of the company.

Indeed, the argument is made that the cuts in R&D and capital expenditures are applied only to those projects that have no economic justification, that the allocation of cash resources to buy back shares is a better use than some misguided capital investment; of course selling

the company (or splitting it up) provides the best outcome for the company and contributes to the overall efficiency of the economic system.

An essential corollary of this 'argument' has to be that, in many instances which activists are particularly adept at spotting, management and boards of directors are incompetent, complacent, lack foresight and are unable to act in a manner that serves the best interest of their company. Given the very small size of most companies targeted by hedge funds, that may occur more readily.

But to accept that occurrence as a general rule would be misguided.

Yet, some researchers claim that 'Activist investors don't slash budgets indiscriminately. They treat R&D as a form of investment ... they examined whether outlays for R&D were directed toward the firm's core competency. If not, those funds were likely to be cut' (Jiang, 2015).

It would seem a bit unusual that managers, despite their large stock-related compensation, would, with the blessing of their board of directors, waste or misspend R&D funds; until, that is, a wise, better-informed activist hedge fund manager comes around to point out the errors of their way.

Either that concept of the business world is accurate, then the whole system of governance of publicly listed businesses must be scrapped and shareholders should call the shot directly and give their marching orders to management; or that view is wrong and management and boards of directors know best what is in the long-term interest of the company. That is a clear choice and one that underpins much of the divergent views on the role and impact of activist hedge funds.

While activist hedge funds (and a number of academics, sheltered by reams of data) have a stake in the first point of view, business people and those whose jobs bring them in close contact with the real world of business tend to partake of the second point of view.

This research does not provide any evidence of the superior strategic sagacity of hedge fund

managers but does point to their keen understanding of what moves stock prices in the short term. Indeed, in none of the 259 cases studied here did hedge funds make proposals of a strategic nature to enhance the long-term performance of the firm.

That should concern society, governments, pension funds, mutual funds and other institutional investors with pretension of a long-term investment horizon.

NOTES

- 1 It has become standard procedure to calculate 'propensity scores' to establish the best match between a non-randomized sample and a randomized control sample (Rosenbaum and Rubin, 1983). In this case, it would call for the constitution of a random sample which, in terms of its characteristics, corresponds as closely as possible to the characteristics of firms that were targeted by hedge funds. However, as we saw, the objectives sought by hedge funds are varied, often subjective, and do not correlate in many cases to specific financial data (Table 14). The heterogeneity of factors in activism and the methodological challenges it induces has been well documented (Goranova and Verstegen Ryan, 2014). We do believe that the match observed in Tables 10, 11, 12 and 13 is as close a match as could be obtained.
- 2 Q1–Q4 were bounded intervals for the random selection process, while Q5 was only left-bounded. This resulted in firms of slightly smaller size at the median level for Q5 in the random sample, mostly because of a larger dispersion. We do not believe that such a difference, for firms of larger size, has any incidence on the interpretation of the results in this study. The average market capitalization at campaign date for the random sample was \$6.8 billion, almost two times the median shown in Table 13.
- 3 But without re-investment of the proceeds of the sale; or assuming that the proceeds is

re-invested in the portfolio of remaining targeted firms, which will lead to the same results.

- 4 Even after a standard winsorization process at the 1 and 99 per cent level.

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