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Activist Hedge Fund Risks to Pension Funds:

The Case of Elliott Management

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Executive Summary

This report considers the impact of activist hedge fund Elliott Management both on its portfolio companies and on its own limited partners. Elliott has been a prominent example of a hedge fund that targets publicly traded companies and advocates for changes in strategy and operations based on a small stake (around 5%). We find that, in contrast to the promise of sustained and superior returns:

- Elliott Management funds underperform on a risk-adjusted basis readily available public investments such as a 60/40 blend of stocks and bonds that has less volatility and risk. Other public investments, such as risk-mitigation ETF's, approach Elliott's risk-adjusted returns with greater liquidity, lower cost, and less administrative oversight.
- Consistent with research on activist hedge funds broadly, we find that while Elliott's interventions produce a short-term improvement in some performance measures, over the three-year period following intervention, Elliott's portfolio companies' total market return relative to risk, revenue, earnings, leverage, debt coverage, and return on assets underperform an objectively identified set of control companies.
- Because Elliott's targets are widely held, Elliott's limited partners bear this negative, long-term impact on their own public equity portfolios. Since most pension funds allocate more assets to public equity than hedge funds, the negative long-term effect Elliott and other activist hedge funds have on public companies may dwarf any benefit pension funds receive as a limited partner.
- Consistent with established research, our analysis of bid-ask spreads at companies Elliott has targeted and where it has appointed or approved a director indicates a statistically significant increase in such spreads in the year following Elliott's intervention, as compared to the control companies. In addition to increasing trading costs for all shareholders, this increase in the bid-ask spread may indicate an increase in information leakage from companies following settlements with Elliott, which has been theoretically linked to insider trading.
- Also consistent with established research, increased bond yields (and falling bond prices) at companies following an Elliott intervention further indicate that public market investors bear costs from Elliott's intervention that rival or exceed the benefit they may enjoy as an Elliott limited partner, if they are also invested in the bonds.

Introduction

After close to two decades in which activist hedge funds grew rapidly in size and in their willingness and ability to challenge the largest and most established public companies, in the past few years, doubts have crept in. A growing number of leading institutional investors, including CalPERS and NYCERS, have divested from hedge funds altogether. Many other pension funds have reduced hedge fund allocations or are considering doing so in light of emerging critiques of the tactics these activists use and the impact they have on long-term performance, on corporate resilience, and on jobs, pay, and working life.¹ Other funds that have reduced hedge fund holdings include the State of New Jersey public employees' pension fund and the University of California employees' pension fund, both of which have reduced their exposure to Elliott Management as part of that process.²

Additionally, while in the early 21st century there was ample evidence that hedge funds in general – and activist hedge funds in particular – provided high returns that were attractively uncorrelated to other parts of pension fund portfolios, since 2010 this segment of investment management has seen its performance slump as its correlations with public equity and fixed income investments rise. Notably, hedge funds have underperformed the S&P 500 every year since 2009.³ As a result of these new trends, from 2016 to May 2021, investors reduced hedge fund investments by approximately \$160 billion, or by 5.3%.⁴

Pension fund trustees and staff are right to be concerned that activist hedge funds may not be an attractive or appropriate investment for their fund. These investment managers charge fees that are many times those of conventional public equity or fixed income managers. As investors shifted away from hedge funds in recent years, Elliott Management lowered these fees somewhat, albeit at the expense of requiring investors to commit to longer “lock-ups.”⁵ Moreover, while advocating for improved governance at the companies they target, hedge funds themselves are opaque vehicles which in some cases have engaged in insider trading.⁶

Additionally, in the past many pension fund trustees and officers opted to invest in hedge funds to increase the diversification of their overall portfolio. Prior to 2000, the evidence clearly showed that hedge funds frequently held assets that were not in other portfolio allocations. As a result, the correlation between hedge fund allocations and the rest of the portfolio was relatively low, signaling successful diversification. Over the past twenty years, and especially in the last decade, these correlations have increased so much that Richard Ennis, a long-standing and well-respected pension fund consultant, has argued that alternative assets – including hedge funds – no longer provide any diversification benefit to institutional investors.⁷

Most importantly, despite their high fees and early reputation for high risk-adjusted returns, research on the long-term consequences of activist hedge fund campaigns strongly indicates

that companies see both their financial and operational performance decline in the 3-5 years following an activist hedge fund intervention. Companies that hedge funds have successfully pressed to change their approach to capital allocation and corporate structure take on significant increases in debt but enjoy only temporary improvements in operating earnings or efficiency. Instead, it appears that on average, activist hedge funds damage companies in the long run, in part by extracting resources through debt-financed special dividends and share buy-backs, depriving companies of needed investments in new technology, research and development, and human capital.

This report will apply these critiques to the case of Elliott Management, a long-standing activist hedge fund with many public employee and Taft-Hartley pension fund investors. We will show that despite charging fees well above those common for institutional public equity managers, Elliott has not provided superior risk-adjusted returns, and despite much marketing rhetoric, has yielded absolute returns inferior to conventional investments like the S&P 500 or a 60-40 blend of stocks and bonds. Moreover, we show that, based on a disciplined comparison between companies that Elliott has engaged with and a control group of objectively similar firms, Elliott's interventions were consistently followed by inferior performance in terms of market returns, revenue growth, earnings, and capital efficiency, even as debt ballooned.

We hope that pension fund trustees and staff find this report helpful as they consider whether to invest in an Elliott fund, maintain existing investments with Elliott, or maintain an overall allocation to activist hedge funds.

Section I: The Financial Performance of Elliott Management Funds

Elliott Management is one of the leading activist hedge funds in the world, and one that has aggressively marketed itself to public employee and Taft-Hartley pension funds both directly and through participation in fund-of-funds. Founded and led by Paul Singer, the firm initiated its activist practice in 2004, led by Managing Director Jesse Cohn. As of 2021, Elliott had over \$48 billion in assets under management.⁸ Elliott Management is a multi-strategy fund with investments in private equity and credit, distressed securities, real estate, commodities, and other asset classes in addition to its public equity investments and shareholder activism practice.⁹

Like other "alternative investment" vehicles, Elliott advertises itself as providing investment opportunities not available in the public markets and unlike investments that typically make up the majority of pension fund asset allocations, while charging fees far above those of conventional institutional managers. More specifically, like other hedge funds, Elliott Management is often classified as an absolute return manager, one whose goal is not to match or beat a particular index, but instead to generate gains to its investors that are competitive with

those available in the public markets but that are minimally correlated with them. Ideally, such an investment product would, over the long-term, provide returns superior to those of conventional investment managers, even taking into account risk.

Evaluating these claims can be challenging for investors and asset managers. Hedge funds are not required to publicly disclose any of their performance information. While some hedge funds report performance to proprietary databases, the survey methods these aggregators use have significant weaknesses-- investment managers have no obligation to participate and do not necessarily report performance for all their products. Fortunately for our purposes, some public employee pension funds are required to disclose information about the performance of their hedge fund investments. One such limited partner, the Employees Retirement System of the State of Rhode Island (ERSRI), has recently published performance data that reaches back more than five years. We used their report for our analysis of the returns enjoyed by Elliott's limited partners.¹⁰

As we can see in Table 1 below, despite Elliott's claims, the ERSRI data shows that Elliott limited partners experienced significant underperformance over the past 5 years compared to conventional, public market investments:

Table 1: Elliott Performance vs. Public Market Investments (Net of Fees)

Name	1 Year	3 Year (annualized)	5 Year (annualized)	Volatility*	Sharpe Ratio*
Elliott Management	14.78%	8.20%	9.21%	3.46%	2.23
HFRI FoF Composite**	23.82%	5.43%	5.61%	4.90%	0.68
S&P 500 TR	56.35%	16.78%	16.30%	13.07%	1.09
10-Yr Treasury	-5.34%	2.85%	3.42%	0.60%	5.70
60/40 Blend	31.67%	11.21%	11.15%	8.08%	2.93

* Volatility and Sharpe Ratio calculated from 11/2011, the date of inception for ERSRI's Elliott investment.

** The Hedge Funds Research Institute Fund of Funds Composite is a common benchmark for hedge fund performance.

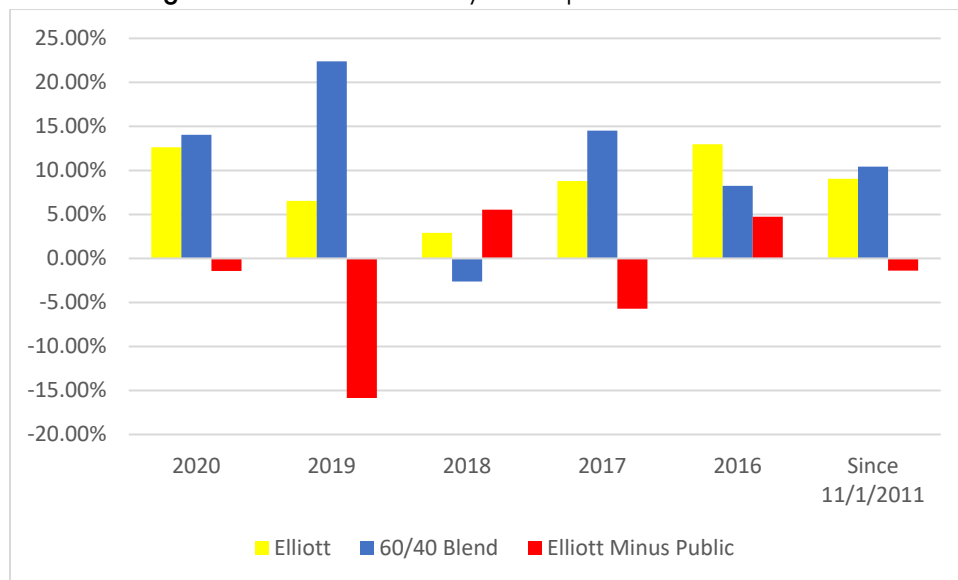
Data in Table 1 is reported as of March 31, 2021, which includes the effects of the global pandemic. For each of the 1-, 3-, and 5-year periods, Elliott has underperformed the S&P 500 on a total return basis by a considerable margin. Unsurprisingly, the 10-year Treasury bond has underperformed Elliott on absolute returns, but with far lower volatility. As a result, on an absolute return basis, a 60% stock/40% bond allocation ("60/40 Blend") – readily available at very low fees to institutional investors – would have outperformed an Elliott hedge fund investment by about 3% on an annualized basis over the past 1-, 3-, and 5- years.

While Elliott's reported volatility is below that of the S&P 500 and the 60/40 Blend, the Sharpe Ratio (which reports the return per unit of volatility) for the 60/40 Blend is notably superior (more than 30% higher) to Elliott's over the past decade. Moreover, building and maintaining such a

public markets portfolio would entail far lower costs in terms of administrative effort, manager selection, and monitoring, over and above greater liquidity and lower fees.

ERSRI also provides year by year performance data for the past five years, allowing us to see if the outperformance of the 60/40 Blend is an artifact of just one or two years of unusual returns. Figure 1 below makes it clear that this is not the case, with Elliott underperforming the 60/40 Blend in each of the past two years, in three of the past five years, and on average since 2011.

Figure 1: Elliott Persistently Underperforms 60/40 Blend



"Elliott Minus Public" refers to the difference between the Elliott return and the 60/40 Blend return for each period.

Traditionally, pension funds have paid activist hedge fund managers fees calculated in a parallel manner to those originally developed by the private equity industry: 2% of assets under management per year, plus 20% of returns over a 10% hurdle rate. Bearing in mind that Elliott's fees vary according to the size and lock-up period, recent reports of Elliott's fee structure changes indicate that investors pay fees roughly in this range.¹¹

Moreover, there is evidence that Elliott's fees may be unusually large even for hedge fund managers. For instance, in 2020, the Missouri Employees Retirement System (MOSERS) reported having \$193 million invested in Elliott International LTD, and paid just under \$9.5 million in fees, or about 4.9%. In contrast, MOSERS pays only about 2% in fees on its alternatives portfolio overall, and only 0.8% in fees on its overall portfolio.¹²

Clearly, at least for this investor in this year, Elliott's expenses far exceeded those of other alternatives managers, to say nothing of the kind of public market investments which the data reported above in Table 1 suggests can match Elliott's long-term risk adjusted returns.

Pension fund trustees and staff should be careful to fully consider the above findings when approached by Elliott Partners or a hedge-fund-of-funds that includes Elliott. There is currently scant evidence that Elliott will outperform readily available conventional investments on a risk-adjusted basis. Retaining the firm will require fee expenses several orders of magnitude larger than those charged by conventional asset managers.

Section II: Do Elliott Interventions Improve Company Performance?

Elliott's past performance has clearly disappointed, and its recent push for longer lock-up periods suggest that its short-horizon activist plays are one reason for overall underperformance. Many critics of the activist hedge fund industry have argued that far from improving performance in a sustainable manner, activist funds extract cash to boost short-term returns while leaving companies in a weakened state that ultimately results in fewer jobs, worse pay, and a declining U.S. economy. Elliott's performance as an activist is consistent with this critique.

The primary challenges to performing this kind of analysis of activist hedge fund interventions are the issues of benchmarking and "cherry-picking". On the one hand, if activist hedge funds are targeting poorly performing companies, we would ideally want to compare the companies where they intervene to other companies that had been poor performers over a similar time frame, but where no activist hedge fund took action; only in this way can we account for any "regression to the mean" in performance. On the other hand, all companies are unique, and so we would want to have a comprehensive and systematic basis for selecting companies to compare to those where a hedge fund intervenes, to avoid the accusation of having selected either only poor performers targeted by hedge fund activists, or only strong performers that were not.

Fortunately, Mark DesJardine, Assistant Professor at Penn State University's Smeal College of Business and Rodolphe Durand, Professor at HEC Paris, have developed a new methodology that enables just this kind of rigorous comparison. DesJardine and Durand utilize a matching algorithm to identify companies with similar primary industries and operational performance trends to those that activist hedge funds have targeted, but where no activist fund intervened.¹³ Their published analysis reviews activist hedge fund interventions broadly, without singling out particular activist funds, and finds that companies experiencing an activist hedge fund intervention enjoy a brief period of superior performance, but after several years, these firms' performance trails that of the control companies identified by the algorithm.

We retained a consultant who applied the same approach to identify a control company for each of the 45 companies Elliott targeted since 2010. The Elliott target list is based on data from regulatory filings, professional reports, and third-party data providers (e.g., Activist Insight and Audit Analytics). The consultant then considered more than 20 measures of financial and

operational performance contained in regulatory filings and proprietary databases, including monthly excess stock market returns, returns on equity and sales, revenue growth, cash flows, growth in indebtedness, and changes in capital expenditures. See Appendix A for a detailed description of this methodology.

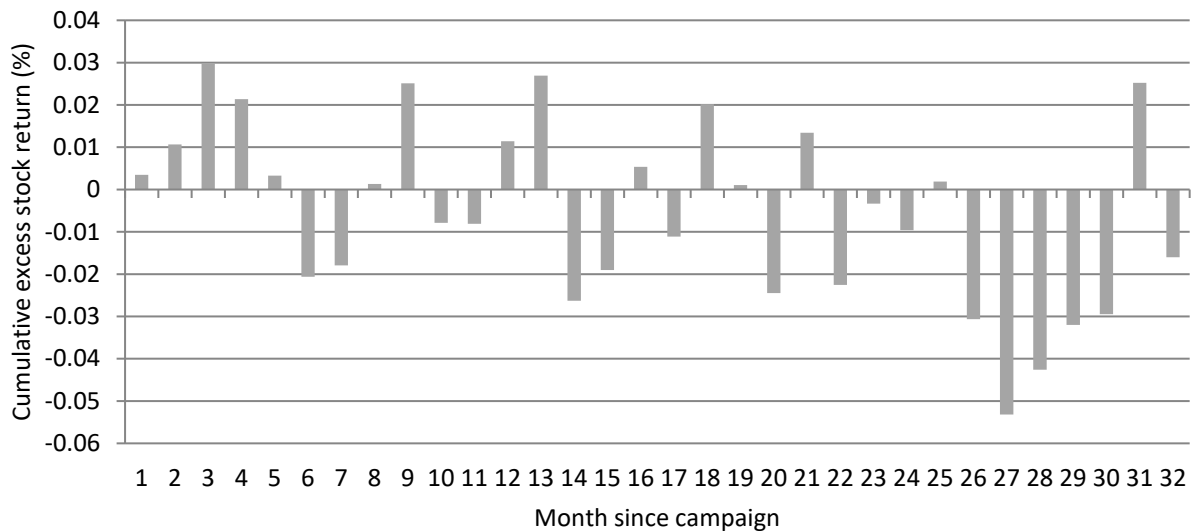
The upshot of this analysis is that Elliott target companies not only perform worse than the control companies over a three-year period, but this underperformance is linked to a combination of increased debt, reduced employment and wages, reduced investment, and increased share buybacks. In essence, our detailed financial and operational analysis of Elliott's interventions precisely reinforces the widespread critique of hedge funds as cash extractors that leave affected companies smaller, weaker, and poorer.

Lower Overall Market Returns

Companies targeted by Elliott have lower stock returns in the one- to three-years after an activism campaign, compared to non-targeted control companies. There are few exceptions to this outcome. Overall, investors that hold onto a stock for three years after an Elliott campaign will lose money, with the most severe losses beginning after 24 months, a few months beyond Elliott's average investment holding period of 1.8 years.

Figure 2 plots the cumulative excess monthly returns for firms targeted by Elliott. Returns are calculated by aggregating all prior monthly excess returns since the initial campaign date for which there are two or more firms in the sample. "Excess" refers to the returns the targeted companies earned over and above the expected market returns. The returns are calculated using the Fama-French Three Factor Model, an asset pricing model that adjusts for the outperforming tendency of small-cap stocks by including size risk and value risk factors. We end the window at 32 months due to a declining sample (i.e., many firms were first targeted by Elliott in 2017-2018 for which there is not enough available data).

Figure 2: Cumulative Excess Monthly Returns

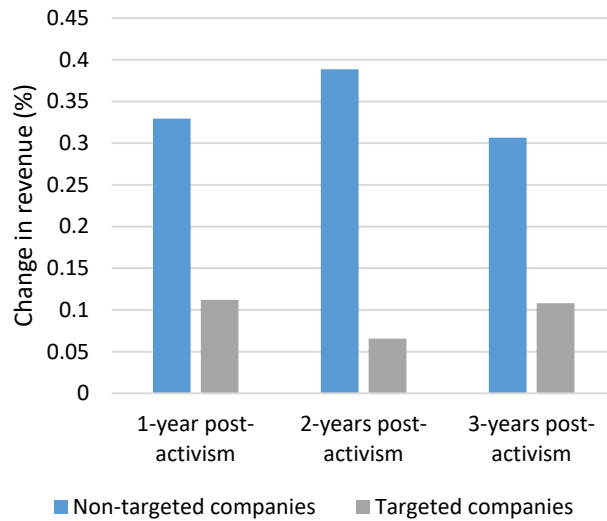


Reduced Growth and Profitability

Beyond the consequences for a target company's share price, we found that changes to operating practices, financial structure, or corporate governance that Elliott urges on target companies do not result in improvements to company performance. Each of the following charts examines an important measure of performance. Overall, we find that Elliott's targets grow more slowly, produce lower profits, incur greater debt obligations while investing less, and overall generate less impressive valuations than their control company counterparts, at least in part because Elliott targets allocate substantially more resources to share buybacks and fewer to investment in operations and human capital management.

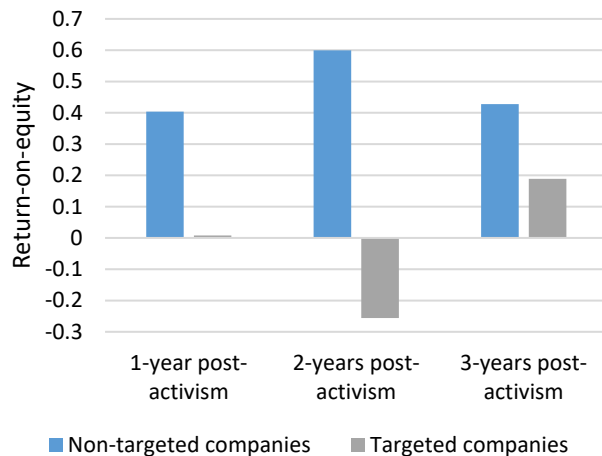
First, we consider changes to company top and bottom lines. Figure 3 shows the changes in revenue from the year before an Elliott intervention to the year indicated on the x axis, clearly showing that the control companies grow more quickly than Elliott's targets in each of the following three years.

Figure 3: Change in Revenue



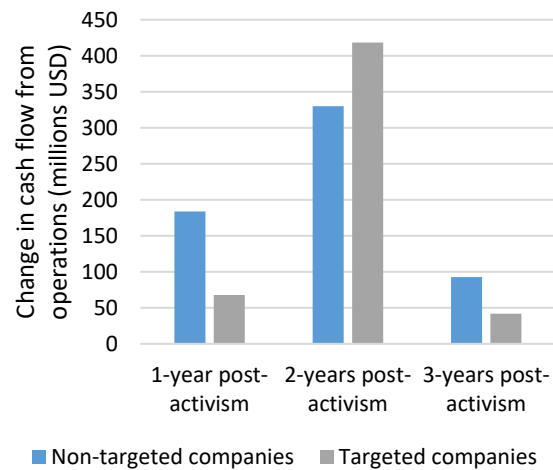
Worse still, this decline in revenues seems to signal inferior earnings performance. Figure 4 shows the control companies as far superior to Elliott targets on the key performance measure of return on equity.

Figure 4: Return on Equity



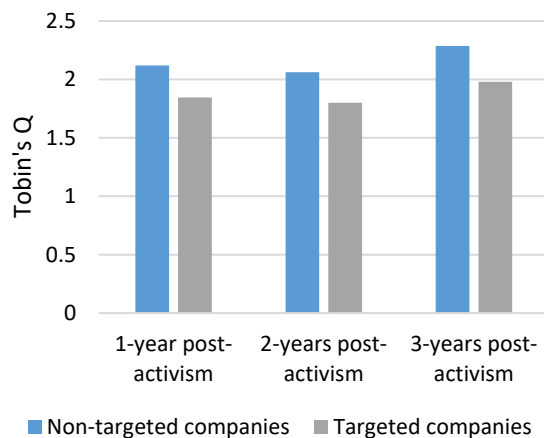
Additionally, Elliott's targets see a brief improvement in their ability to generate cash from operating activities (again, compared to one year prior to Elliott's intervention), as seen in Figure 5, but this improvement in both absolute terms and relative to the control companies is not sustained beyond the two years following Elliott's intervention.

Figure 5: Change in Cash from Operations

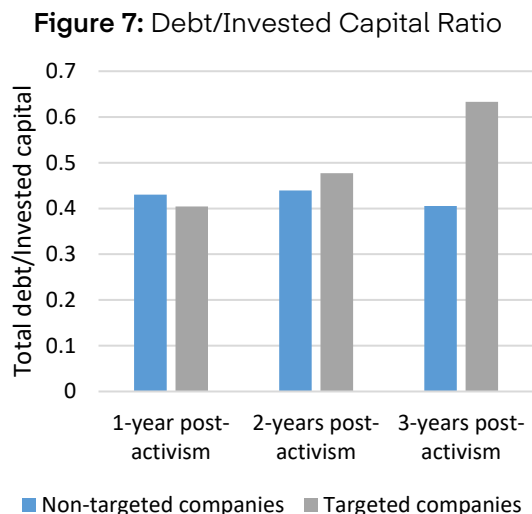


Partly because of inferior growth in revenue, cash generation, and returns on equity, Elliott targets lag their control company peers in their evident attractiveness to market participants, as revealed by Tobin's Q (Figure 6). This measure compares a company's share price to the replacement cost of its assets, implicitly reflecting the market's view of the intangible factors that shape company value, such as managerial quality and workforce engagement. Tobin's Q indicates that market participants consistently value these intangible factors at the control companies more highly than at the Elliott targets, and that this relationship is unchanged even three years following Elliott's intervention.

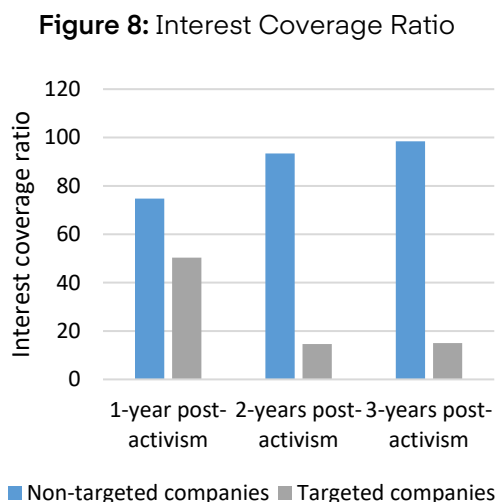
Figure 6: Tobin's Q



What causes these negative changes in overall company performance? First, Elliott targets take on substantially heavier debt loads. Figure 7 shows the shift in capitalization among the Elliott target companies compared to their control peers, with the debt to invested capital ratio for the Elliott targets growing by 50% over three years while shrinking slightly at the control companies.



However, this increase in debt does not coincide with either an offsetting improvement in borrowing terms or in an increase in investment. First, Figure 8 shows that the interest coverage ratio (comparing earnings before interest and taxes to interest payments) grows for the control companies which indicates they are better able to afford their debt obligations while shrinking for the Elliott targets, showing that they become steadily less able to meet their obligations.



Second, and despite this increase in borrowing, Elliott targets invest less than their control company peers, see their assets decline in value, and shed employees. In contrast, the control companies invest a larger share of revenue, grow their assets, and create jobs.

Figure 9: Capital Expenditures



Figure 10: Change in Assets

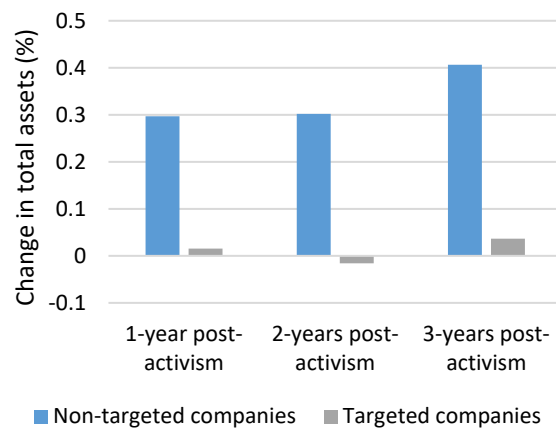
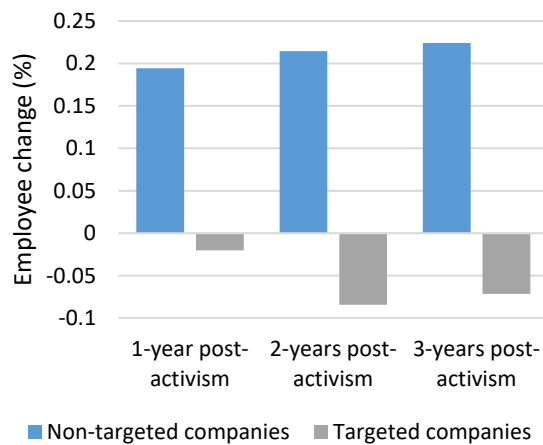


Figure 11: Change in Employment



This pattern of disinvestment appears to be linked to a significant shift in capital allocation away from investment in both physical assets and human capital, and toward cash returns to shareholders. We can see from Figures 12 and 13 that while employment-related expenditures fell more sharply at Elliott targets than at control companies, share repurchases (shown as a percentage of revenue) increased sharply.

Figure 12: Change in SG&A per Employee

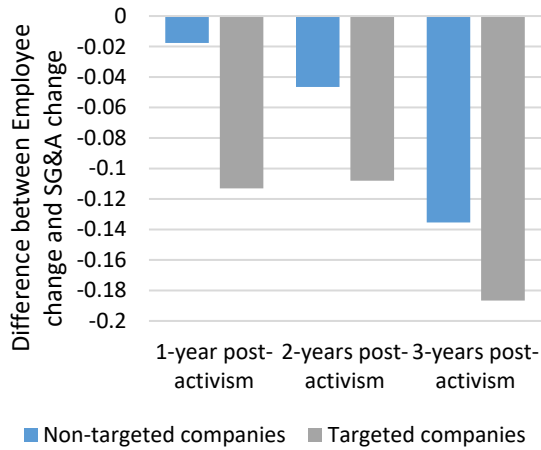
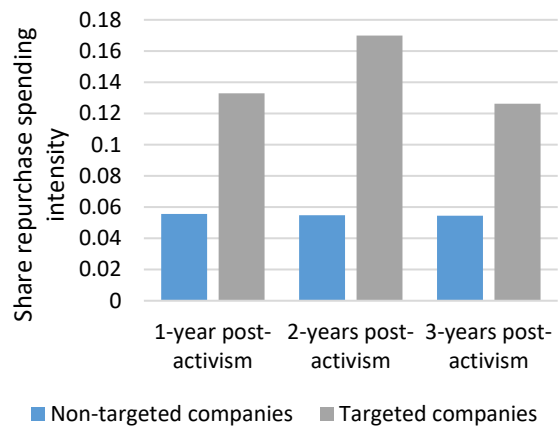
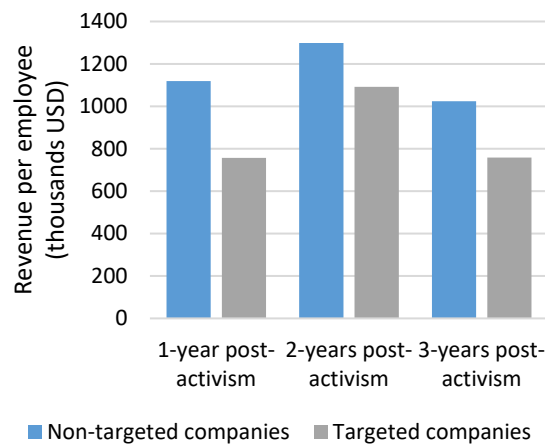


Figure 13: Share Repurchases as % of Revenue



Yet this combination of changes does not appear to have made Elliott's targets healthier or better able to grow in the future, as shown previously and reinforced by Figure 14, which makes clear that productivity growth increases faster at control companies than Elliott targets.

Figure 14: Productivity



Section III: Risks activist hedge pose to public equity and fixed income portfolios

In addition to the unattractive risk-adjusted returns described in Section I of this report, the negative effect of Elliott's interventions on the operations of its portfolio companies described in Section II poses a risk to the public equity portfolios of not only its own limited partners, but also those of other institutional investors, including pension funds with no allocation to either Elliott or hedge funds.

This Section will review these risks, including risks to public equity performance, increased trading costs for public equity investors, and declining credit ratings and reduced returns to fixed income investments. Pension fund trustees and staff ought to consider the comprehensive impact of activist hedge fund activity on their fund's portfolio before determining if such investments are a suitable match for their investment goals and time horizons.

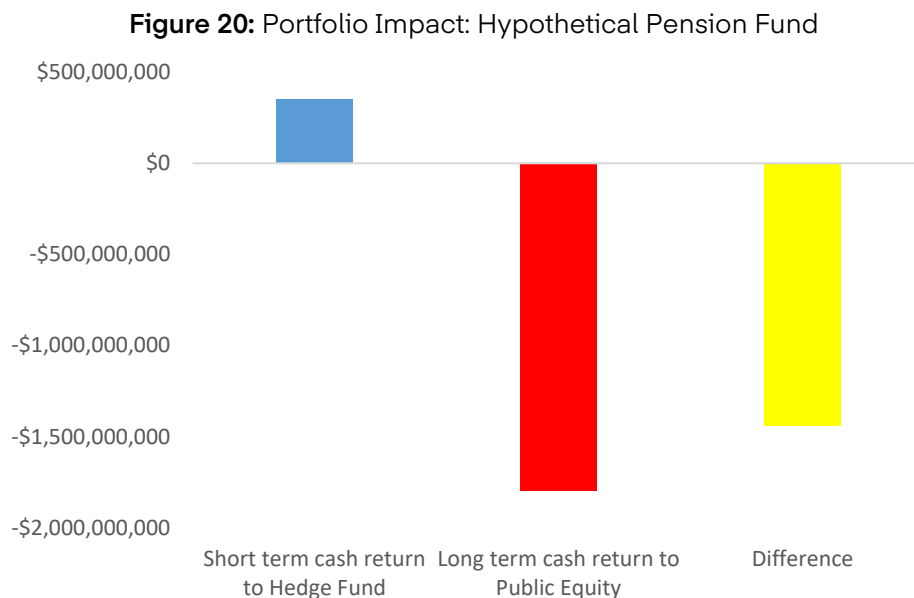
Diminished Returns on Public Equity Portfolios

Pension funds that have a significant allocation to alternative investments will likely have an even greater total exposure to the public companies that activist hedge funds target, due to these companies also being represented in the pension fund's public equity allocation. Consequently, even a large, short-term boost in performance following an activist hedge fund campaign will not benefit the pension fund overall if it comes at the expense of a negative long-term effect to other parts of the portfolio. DesJardine and Durand find that, over their full sample, activist hedge fund interventions increase firm value by 7.7% in the first year following intervention (t+1) but reduce firm value by -4.9% over the next three years (t+4). As noted in Figure 2 above, for Elliott portfolio companies specifically, we found a positive excess return of 2.7% after 13 months, followed by negative long-term excess returns of -5% over 27 months, and -1.5% over the full three years.

To illustrate the consequences of the short-and long- term impacts, we present a hypothetical case based on the average asset allocations of public pension funds as reported by the Boston College Center for Retirement Research, and by estimating the impact on a fund such as the Missouri State Employees Retirement System (MOSERS) – an Elliott investor – and using the example of Elliott target Hess Petroleum (NYSE:HES, "Hess"). In each case, we will see that even an impressive short-term return on hedge fund investments is readily overwhelmed by a much larger allocation to public equity suffering a smaller negative impact.

Currently, public employee pension plans on average allocate 47% of their assets to public equity, and 5.9% to hedge funds.¹⁴ We will assume that the hypothetical pension fund has \$78 billion in assets under management (the average for state funds in the US in 2020), and so has \$37 billion in public equity and \$4.6 billion allocated to hedge funds.

Assuming as conservatively as possible that all the hedge fund assets are allocated to a hedge fund with the average five-year performance found by DesJardine and Durand, we have the overall results shown in Figure 20.

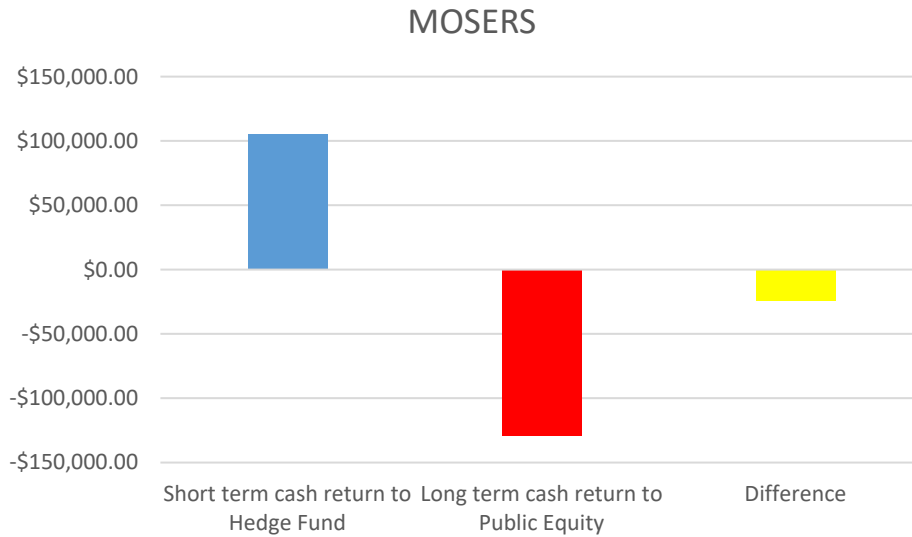


Clearly, the negative five-year impact on the public equity portfolio overwhelms the positive one-year return the activist hedge fund provides. This difference is so large that even if the hypothetical pension fund withdrew its earnings from the hedge fund at the end of one year and reinvested them for the next four years, those reinvested earnings would need to provide a 35% annualized return to make the pension fund whole, if the investments were equally weighted across the hedge fund and public portfolios.¹⁵

To explore the impact of overdiversification via hedge fund investments, we consider the potential impact on MOSERS of Elliott’s intervention with CDK Global (Nasdaq: CDK, “CDK”), which began in the fall of 2016. MOSERS is a somewhat unusual public pension fund, in that for over a decade it has combined large allocations to private markets with complex financial strategies, including significant hedge fund exposures. As a result, MOSERS is disproportionately exposed to hedge funds, and unusually lightly exposed to public equity, compared to other public pension funds. At the time of Elliott’s engagement with CDK, we estimate that MOSERS’ exposure via its investment with Elliott would have been about \$1.4 million, while its exposure to CDK through its public equity investments would have been only \$544,000.

CDK’s performance over the subsequent one- and three-year periods confirms our finding above: the long-term damage hedge fund activism does to companies is sufficient to entirely undo MOSERS’ short-term gains from the hedge fund investment, as Figure 21 illustrates.

Figure 21: MOSERS Allocations and Actual Returns



In the year following Elliott’s intervention, CDK’s share price grew 7.6%, which would have resulted in a gain for MOSERS of over \$105,000. But over the following three years, CDK’s share price declined sharply, by 23.8%. As a result, MOSERS’ short-term gain would have been entirely wiped out, so that on balance over these three years the pension fund would have lost about \$25,000. While a modest loss in absolute terms, it nonetheless illustrates the need to view hedge fund strategies on a total fund basis in order to avoid unintended losses and accurately reflect the true impact of the hedge fund allocation on the portfolio and pension fund beneficiaries.

Increased Public Equity Transaction Costs

There is another, more subtle, cost for public equity investors stemming from hedge fund activism. Activist hedge funds frequently obtain appointments for senior employees to the board of directors of target companies, either as result of running a successful dissident slate or via a settlement agreement. But once hedge fund employees sit on a company’s board, there appears to be a significant increase in “information leakage”: the company’s share price begins to rise (fall) in the days prior to the company’s announcement of positive (negative) events or results.¹⁶ Columbia University Law School professor John Coffee Jr. concluded that this effect is likely a consequence of hedge fund employees serving as company directors leaking this information to investors ahead of the planned announcement. While Coffee makes it clear that these findings do not amount to proof of insider trading violations, they do present a cost for public equity investors: bid-ask spreads increase by 1% at companies following the addition of hedge fund employees to their boards.¹⁷ While this may seem like a small effect, in its most recent fiscal year, MOSERS traded approximately 22.9 million shares.¹⁸ Even a small increase in the cost of each of just a subset of these transactions would amount to a significant additional burden for a pension fund.

To see whether this effect is present at companies targeted by Elliott Management, we compared the monthly bid-ask spreads for all the Elliott targets in our sample (“All Elliott”), for the subset of Elliott targets that appointed a director employed or designated by Elliott (“Elliott Director”), and for the control companies, taking the average of changes in those spreads for each company before and after Elliott’s intervention. The results are shown in Figures 22-24.

In each chart, the horizontal axis displays the month prior to or following Elliott’s intervention, with the date of the intervention represented by the dotted red vertical line. The yellow horizontal dotted lines represent the average for each group of companies for each time period. Visually inspecting these three charts, it certainly appears that for both the All Elliott and Elliott Director groups, there was a noticeable increase in bid-ask spreads following Elliott’s intervention, while for the control companies no change seems to have taken place. Statistical tests confirm this picture: using the t-test, we find that there is a less than 1% likelihood that the apparent difference in the before and after averages for the All Elliott and Elliott Director groups of companies could occur by chance. Conversely, we find that it is more likely than not that the before and after averages for the control companies are the same.

Figure 22: Before and After Bid-Ask Spreads, All Elliott Targets

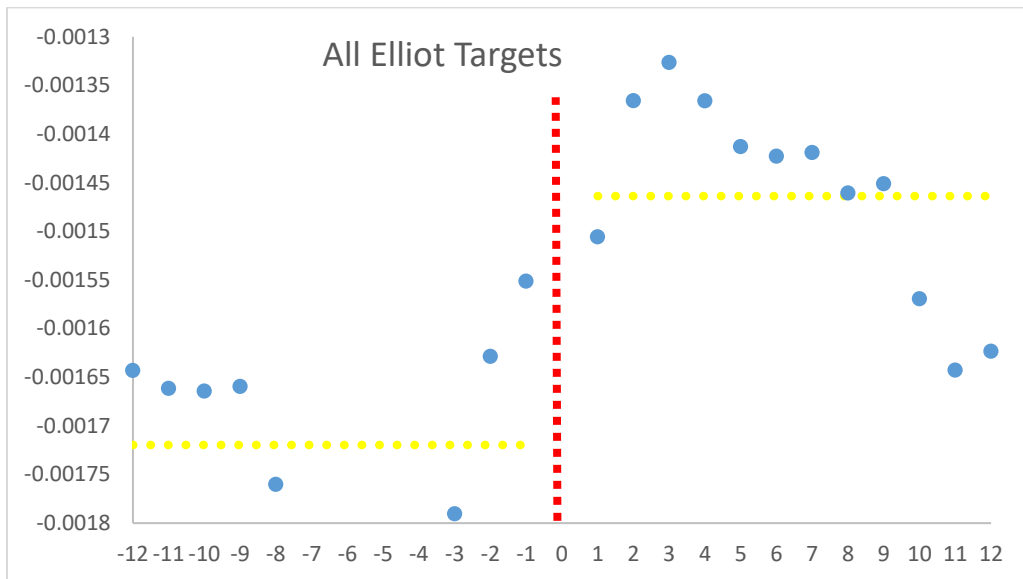


Figure 23: Before and After Bid-Ask Spreads, Elliott Directors

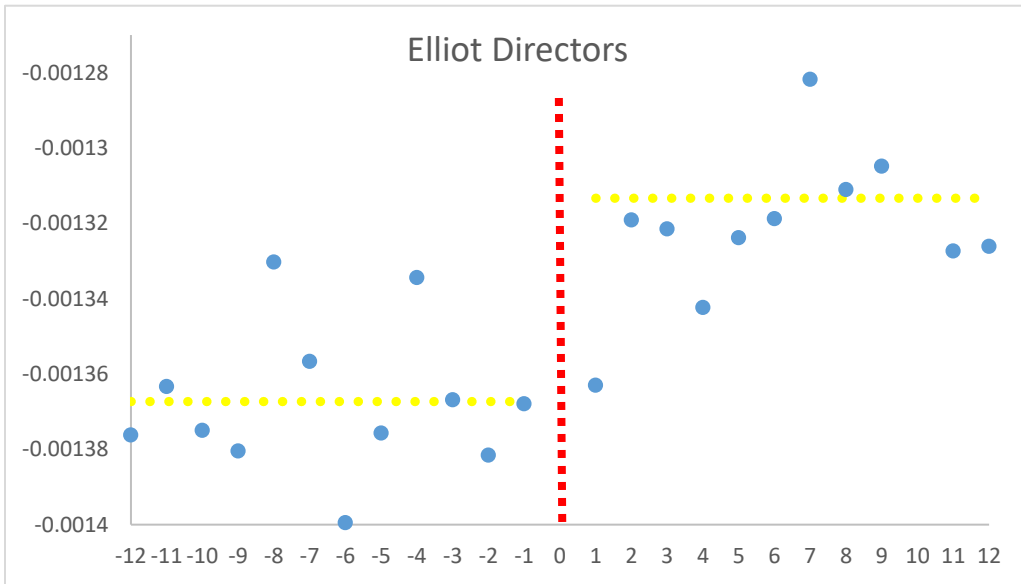
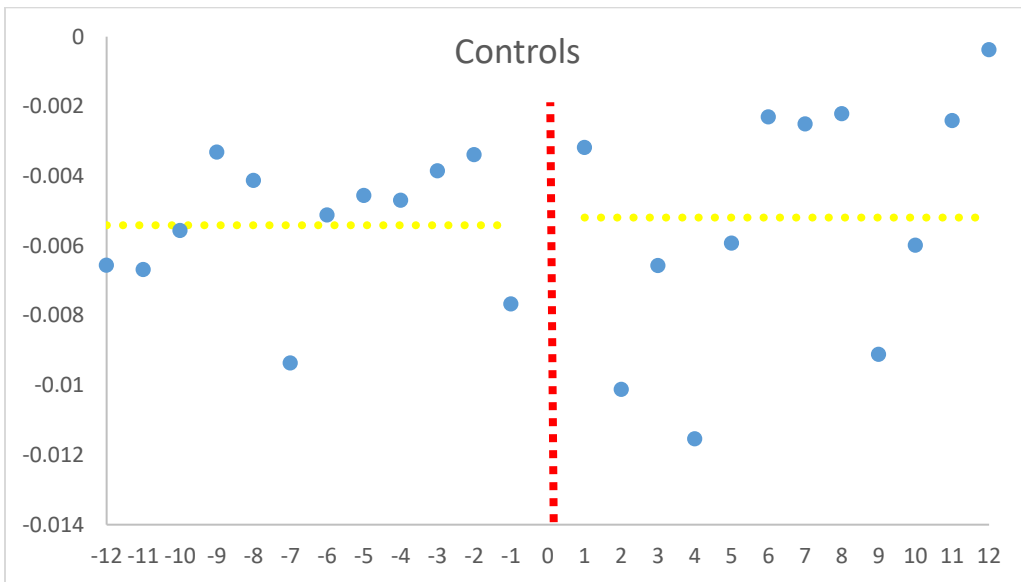


Figure 24: Before and After Bid-Ask Spreads, Controls



Reduced Returns to Fixed Income Investments

While activist hedge funds like Elliott often focus on publicly traded companies and seek to increase equity returns to shareholders, these same companies are also issuers of bonds and other fixed income securities. In addition to being significant public equity investors, pension funds also hold substantial fixed income assets, including corporate bonds. The Public Plans Database maintained by the Center for Retirement Research at Boston College reports that fixed income securities comprise 23% of pension fund assets nationally.¹⁹

Consequently, any negative effect hedge fund activism has on corporate bonds will to some considerable degree offset any temporary positive effect on share prices. Multiple studies have found just such a negative effect: Feng et al. find that hedge fund targets experience a fall in bond prices generating a 0.9% increase in yields, as well as a drop in bond ratings, and an increase in the costs of new credit.²⁰ Jory et al. find that following an activist announcement, returns to the target's bonds fall 0.48%-0.6% in three days, with the largest impact on the longest maturity bonds.²¹ Klein and Zur find an even larger short term effect on bond returns of -3.9%, and a further decline of -4.5% after one year.²²

Trustees and staff should consider this additional cost to a pension fund's overall portfolio and investment returns before deciding to allocate assets to activist hedge funds.

Conclusion

In the wake of the 2008-2009 financial crisis, many pension funds have sought to make up for past losses by increasing allocations to alternative investments, including hedge funds. As a prominent hedge fund activist with a widely admired founder, Elliott Management benefitted from this trend, growing its assets under management from under \$30 billion in 2010 to over \$48 billion in 2021. While institutional investors have become justifiably skeptical of hedge fund performance and irate over high hedge fund fees, many trustees and staff may not recognize the full range of negative effects hedge fund activism may have on their institution.

Moreover, trustees and staff may hope that certain well-known activist hedge funds, like Elliott Management, are different from the pack and likely to produce attractive returns. This report has demonstrated that such hopes might well be in vain. Like most other hedge funds, Elliott has produced returns to its limited partners that trail those available from conventional investments both on absolute and risk-adjusted terms. Moreover, despite its claims to improve the businesses which it targets, our analysis of Elliott's portfolio companies indicates that, over the long-term, targeted companies generally perform worse than an objectively similar set of control companies. Pension fund trustees and staff should carefully consider these findings before committing their fund's capital to an Elliott vehicle.

APPENDIX A: Methodology

All campaigns against companies led by Elliott Management between 2010 and 2020 were identified using data from regulatory filings, professional reports, and third-party data providers (e.g., Activist Insight and Audit Analytics). Financial, accounting, operational, social, and other data come from a variety of databases.

Analyses are based on matched samples using Propensity Score Matching (PSM), a rigorous matching methodology used to ensure reliable comparison groups. PSM helps improve the estimation of causal effects by matching all targeted companies to lookalike “control” companies that were not targeted by an activist hedge fund but are otherwise similar to the companies targeted by Elliott.

The term “targeted companies” refers to all companies in the analyses that were targeted by Elliott; the term “non-targeted companies” refers to all lookalike control companies that were matched to the targeted companies on the following characteristics: (1) Firm size (book value of total assets); (2) Workforce size (number of employees); (3) Profitability (return-on-assets); and (4) Market value (Tobin’s Q).

Matching is conducted within the same industry and in t, the year when an activism campaign takes place. For example, if a company in the Energy industry was targeted in 2013 then the closest lookalike company in the Energy industry that had not been targeted would be matched based on its similarity in 2013.

In total, we were able to collect data for 45 companies targeted by Elliott between 2010–2020, which are matched to 205 non-targeted control companies. This methodology provides about 4 control companies per single targeted company, which helps ensure the results are not driven by changes in the non-targeted control companies.

APPENDIX B: Target and Control Companies

Companies Targeted by Elliott Management in Sample:

- Akamai Technologies Inc
- Alexion Pharmaceuticals Inc
- Allergan Plc
- American Capital Ltd
- At&T Inc
- Athenahealth Inc
- BMC Software Inc
- Cabelas Inc
- Cdk Global Inc
- Citrix Systems Inc
- Cognizant Tech Solutions
- Commvault Systems Inc
- Compuware Corp
- Ebay Inc
- Emc Corp/Ma
- Emulex Corp
- Energen Corp
- Family Dollar Stores
- Hess Corp
- Hilton Grand Vacations
- Informatica Corp
- Interpublic Group Of Cos
- Iron Mountain Inc
- Juniper Networks Inc
- Logmein Inc
- Marathon Petroleum Corp
- Mentor Graphics Corp
- Mitek Systems Inc
- Mitel Networks Corp
- Netapp Inc
- Nielsen Holdings Plc
- Novell Inc
- Nrg Energy Inc
- Nxp Semiconductors Nv
- Ocean Rig Udw Inc
- Peabody Energy Corp
- Polycom Inc
- Pultegroup Inc

- Qep Resources Inc
- Riverbed Technology Inc
- Rpm International Inc
- Sempra Energy
- Sundance Energy Australia
- Taubman Centers Inc
- Travelport Worldwide Ltd

“Control” Companies not targeted by Elliott Management in Sample:

- 58.Com Inc
- Aci Worldwide Inc
- Acm Research Inc
- Activision Blizzard Inc
- Advanced Emissions Solutions
- Aecom
- Agco Corp
- Allete Inc
- Alliance Holdings Gp Lp
- Alliance Resource Ptnrs -Lp
- Altra Industrial Motion Corp
- Amdocs
- Ameren Corp
- American Electric Power Co
- American Homes 4 Rent
- Amn Healthcare Services Inc
- Amtech Systems Inc
- Anadarko Petroleum Corp
- Ansys Inc
- Apartment Invst & Mgmt Co
- Apple Hospitality Reit Inc
- Arch Coal Inc
- Asgn Inc
- Asml Holding Nv
- Aspen Technology Inc
- Avangrid Inc
- Axalta Coating Systems Ltd
- Baytex Energy Corp
- Big Lots Inc
- Blackhawk Network Hldgs Inc

- Broadridge Financial Solutns
- Brooks Automation Inc
- Ca Inc
- Calatlantic Group Inc
- California Resources Corp
- Camden Property Trust
- Cameron International Corp
- Canadian Natural Resources
- Canon Inc
- Canopy Growth Corp
- Capstead Mortgage Corp
- Cass Information Systems Inc
- Cbl & Associates Pptys Inc
- Centennial Res Dvlpmnt Inc
- Cf Industries Holdings Inc
- Charter Communications Inc
- Check Point Software Techn
- Chesapeake Energy Corp
- China Ming Yang Wind Pwr
- China Mobile Ltd
- Church & Dwight Inc
- Clarcor Inc
- Clarivate Analytics Plc
- Clean Harbors Inc
- Clear Channel Outdoor Hldgs
- Clorox Co/De
- Cnh Industrial Nv
- Cnx Resources Corporation
- Colliers Intl Group Inc
- Consol Energy Inc
- Consolidated Edison Inc
- Corning Inc
- Costar Group Inc
- Covanta Holding Corp
- D R Horton Inc
- Deere & Co
- Diamondback Energy Inc
- Disney (Walt) Co
- Dollar General Corp
- Dte Energy Co
- Dupont De Nemours Inc

- Elbit Systems Ltd
- Eletrobras-Centr Eletr Bras
- Energizer Holdings Inc
- Eni Spa
- Equinor Asa
- Equity Lifestyle Properties
- Eversource Energy
- Extraction Oil & Gas Inc
- F5 Networks Inc
- Fair Isaac Corp
- Fidelity National Info Svcs
- Finisar Corp
- Firstservice Corp
- Fitbit Inc
- Five Below Inc
- Five Point Holdings Llc
- Fmc Technologies Inc
- Foresight Energy Lp
- Fortis Inc
- Franco-Nevada Corp
- Gartner Inc
- Gencor Industries Inc
- Genpact Ltd
- Glaxosmithkline Plc
- Graco Inc
- Grifols Sa
- Henry (Jack) & Associates
- Huaneng Power International
- Ihs Markit Ltd
- Independence Contract Drllng
- Infosys Ltd
- Insperty Inc
- Intuit Inc
- Ipg Photonics Corp
- Iqvia Holdings Inc
- J2 Global Inc
- Jazz Pharmaceuticals Plc
- John Bean Technologies
- Johnson Controls Intl Plc
- Kar Auction Services Inc
- Kaydon Corp

- Kb Home
- Kelly Services Inc -Cl A
- Kilroy Realty Corp
- Klx Energy Servs Hldng
- Knowles Corp
- Lauder (Estee) Cos Inc -Cl A
- Lennox International Inc
- Lg Display Co Ltd
- Liberty Tripadvisor Holdings
- Life Storage Inc
- Linde Plc
- Lonestar Resources Us Inc
- Macerich Co
- Macy's Inc
- Magnachip Semiconductor Corp
- Mallinckrodt Plc
- Mantech Intl Corp
- Marathon Oil Corp
- Match Group Inc
- Merck & Co
- Micron Technology Inc
- Midstates Petroleum Co Inc
- Mobile Mini Inc
- Momo Inc
- Multi-Fineline Electron Inc
- National Oilwell Varco Inc
- Netease Inc
- Netscout Systems Inc
- New York Mortgage Trust Inc
- Newmark Group Inc
- Ngl Energy Partners Lp
- Northwestern Corp
- Oasis Petroleum Inc
- Oceaneering International
- Office Depot Inc
- Omnicom Group
- One Gas Inc
- Orange
- Outfront Media Inc
- Palo Alto Networks Inc
- Par Technology Corp

- Parsons Corp
- Paychex Inc
- Pentair Plc
- Phillips 66
- Pitney Bowes Inc
- Plexus Corp
- Pricesmart Inc
- Ptc Inc
- Rbc Bearings Inc
- Redwood Trust Inc
- Ribbon Communications Inc
- Ringcentral Inc
- Rite Aid Corp
- Robert Half Intl Inc
- Rogers Corp
- Rosehill Resources Inc
- Sabre Corp
- Salesforce.Com Inc
- Sandisk Corp
- Science Applications Intl Cp
- Seagate Technology Plc
- Shopify Inc
- Signet Jewelers Ltd
- Silicon Laboratories Inc
- Suncor Energy Inc
- Syneos Health Inc
- Tal International Group Inc
- Telefonica Sa
- Texas Instruments Inc
- The Unilever Group
- Tiffany & Co
- Toll Brothers Inc
- Transocean Ltd
- Tutor Perini Corp
- Ultimate Software Group Inc
- Unisys Corp
- United Rentals Inc
- Valero Energy Corp
- Vermilion Energy Inc
- Wec Energy Group Inc
- Welltower Inc

- Westlake Chemical Corp
- Whirlpool Corp
- Whiting Petroleum Corp
- Willscot Corp
- Wipro Ltd
- Wix.Com Ltd
- Workday Inc
- Worldpay Inc
- X Financial
- Xperi Corp
- Yandex N.V.

APPENDIX C: Statistical Tables for Bid-Ask Spread Analysis

The table below contains the monthly average bid-ask spread for All Elliott portfolio companies, for those portfolio companies where Elliott appointed or approved the appointment of a Director, and for the control companies. Below the table, we provide the Excel data analysis pack output of the t-tests performed to test the statistical significance of the differences in the average bid-ask spread following an Elliott intervention. We believe that that paired sample for means is the most appropriate version of the t-test for our data. NB: in the first two tables, we have rewritten the coefficient value in standard scientific notation in the column to the right for ease of understanding.

Month	All Elliott	Elliott Director	Control
-12	-0.0035	-0.0013	-0.0031
-11	-0.0039	-0.0013	-0.0038
-10	-0.0039	-0.0013	-0.0027
-9	-0.0039	-0.0013	-0.0026
-8	-0.0040	-0.0013	-0.0027
-7	-0.0018	-0.0013	-0.0024
-6	-0.0018	-0.0013	-0.0028
-5	-0.0018	-0.0013	-0.0029
-4	-0.0040	-0.0013	-0.0030
-3	-0.0018	-0.0014	-0.0029
-2	-0.0016	-0.0014	-0.0030
-1	-0.0037	-0.0014	-0.0029
0			
1	-0.0022	-0.0014	-0.0029
2	-0.0036	-0.0015	-0.0030
3	-0.0029	-0.0015	-0.0032
4	-0.0014	-0.0015	-0.0037
5	-0.0015	-0.0014	-0.0032
6	-0.0015	-0.0015	-0.0023
7	-0.0015	-0.0015	-0.0022
8	-0.0039	-0.0019	-0.0019
9	-0.0016	-0.0016	-0.0027
10	-0.0017	-0.0016	-0.0028
11	-0.0019	-0.0018	-0.0023
12	-0.0018	-0.0017	-0.0023

t-Test: Paired Two Sample for Means

All Elliott		
	<i>-0.00116329</i>	<i>-0.001033937</i>
Mean	-0.00125839	-0.000972003
Variance	1.06777E-08	8.70443E-09
Observations	11	11
Pearson Correlation	-0.240731734	
Hypothesized Mean Difference	0	
df	10	
t Stat	-6.128140198	
P(T<=t) one-tail	5.57404E-05	5.6x10 ⁻⁵
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.000111481	
t Critical two-tail	2.228138852	

t-Test: Paired Two Sample for Means

Elliott Director		
	<i>-0.00040276</i>	<i>-0.000387188</i>
Mean	-0.000408842	-0.000337496
Variance	1.81524E-10	9.26269E-10
Observations	11	11
Pearson Correlation	0.135248699	
Hypothesized Mean Difference	0	
df	10	
t Stat	-7.494557749	
P(T<=t) one-tail	1.03787E-05	1x10 ⁻⁵
t Critical one-tail	1.812461123	
P(T<=t) two-tail	2.07573E-05	2x10 ⁻⁵
t Critical two-tail	2.228138852	

t-Test: Paired Two Sample for Means

Controls		
	-0.00656324	-0.003181283
Mean	-0.005305169	-0.005372375
Variance	3.61517E-06	1.38096E-05
Observations	11	11
Pearson Correlation	-0.353532158	
Hypothesized Mean Difference	0	
df	10	
t Stat	0.04707353	
P(T<=t) one-tail	0.481690733	
t Critical one-tail	1.812461123	
P(T<=t) two-tail	0.963381466	
t Critical two-tail	2.228138852	

¹ Dan Fitzpatrick, "Calpers to Exit Hedge Funds," *The Wall Street Journal*, [September 15, 2014](#); Robert Steyer, "NYCERS pulls plug on hedge funds," *Pension & Investments*, [April 18, 2016](#).

² "CWA Alerts Elliott Management Investors About Hedge Fund's Underperformance, Divestment by University of California Endowment and Pension Fund, and AT&T Job Cuts," The Communications Workers of America, [March 26, 2020](#).

³ Laurence Fletcher, "Why some big investors have had enough of hedge funds" *Financial Times*, [January 27, 2020](#).

⁴ Fletcher, op.cit., January 27, 2020.; Patturaja Murugaboopathy, "Hedge funds start to see inflows after big drawdowns in 2020," *Reuters*, [May 11, 2021](#). Based on the data presented in these two articles, we estimate outflows from hedge funds of \$160 billion from 2016 to 2021, which is 5.3% of the \$3 trillion total invested in hedge funds as of 2016, according to the *Financial Times* report.

⁵ Michelle Celarier, "Paul Singer Wants More Time" *Institutional Investor*, [June 8, 2020](#); Nishant Kumar, Demetrios Pogkas, Hema Parmar, "Hedge Fund Fees In Free Fall Is The New Reality For A Humbled Industry," *Bloomberg*, [July 27, 2020](#).

⁶ Hedge fund employees convicted of insider trading charges include Chip Skowron of Frontpoint Partners, Mathew Martoma of S.A.C. Capital Advisors, Perkins Hixon of Evercore Partners, and Raj Rajaratnam of Magnetar Partners.

⁷ Richard M. Ennis, "Institutional Investment Strategy and Manager Choice: A Critique", *Journal of Portfolio Management*, Fund Selection 2020.

⁸ "About Elliott," Elliott Management, Accessed [August 16, 2021](#).

⁹ "What we do," Elliott Management, Accessed [August 16, 2021](#).

¹⁰ ERSRI data downloaded from RI Treasury web site: <http://data.treasury.ri.gov/dataset/e3269532-577e-43f8-b5be-64fb1e962a2d/resource/3a77a6f7-5f31-436e-812a-cabaf066a62d/download/ERSRI-SIC-BOOK-11.30.2020-Data.pdf>

¹¹ According to a July 2020 Bloomberg report, "New York-based Elliott is asking some clients to switch to a share class that will lower their fees to 1.5%, from 2%. In exchange, it will take investors 18 months to take all their money out." See Nishant Kumar, Demetrios Pogkas and Hema Parmar, "Hedge Fund Fees in Free Fall Is the New Reality For a Humbled Industry," *Bloomberg Businessweek*, [July 27, 2020](#).

¹² Missouri Employees Retirement System (MOSERS), Comprehensive Annual Financial Report (CAFR), Fiscal Year Ended June 30, 2020, pg 88. https://www.mosers.org/docs/default-source/funding/annual-reports/2020-comprehensive-annual-financial-report.pdf?sfvrsn=25f8d9ae_6.

¹³ Mark DesJardine and Rodolphe Durand, "Disentangling the effects of hedge fund activism on firm financial and social performance", *Strategic Management Journal*, February 5, 2020.

¹⁴ Boston College Center for Retirement Research, National Data.

¹⁵ This conclusion implicitly assumes that a hedge fund manager and public equity manager with equal assets under management would hold shares in the same number of different companies. This implicit assumption is important

because, if hedge funds tend to hold shares in fewer different companies (i.e. a more concentrated portfolio) then in principle a particular investor might have a large enough stake in a portfolio company through the hedge fund that the positive one-year return is greater than the negative 3- or 5- year return generated by the same company held in that investor's public equity portfolio. Consequently, we want to see how an actual pension fund allocates assets between these classes of investments.

¹⁶ John C. Coffee, Jr., "The Agency Costs of Activism: Information Leakage, Thwarted Majorities, and the Public Morality," ECGI Law Working Paper no. 373, November 2017.

¹⁷ John C. Coffee, Jr., Robert J. Jackson, Jr., Joshua R. Mitts, Robert E. Bishop, "Activist Directors and Agency Costs", <https://ssrn.com/abstract=3100995>.

¹⁸ MOSERS, CAFR, pg 82.

¹⁹ Boston College Center for Retirement Research, National Data.

²⁰ Felix Zhiyu Feng, Qiping Xu, Caroline H. Zhu, "Caught in the Crossfire: How Hedge Fund Activism Affects Creditors" July 2020, <https://ssrn.com/abstract=2716929>.

²¹ Surendranath Jory, Thanh Ngo, Jurica Susnjara, "The effect of shareholder activism on bondholders and stockholders" *Quarterly Review of Economics and Finance*, 2017.

²² April Klein, Emanuel Zur, "[The Impact of Hedge Fund Activism on the Target Firms Existing Bondholders](#)".