



US Thematic Views

Shareholder activism: What investors seek, which companies are targeted, and how stocks perform

Research | Portfolio Strategy | By David J. Kostin and others

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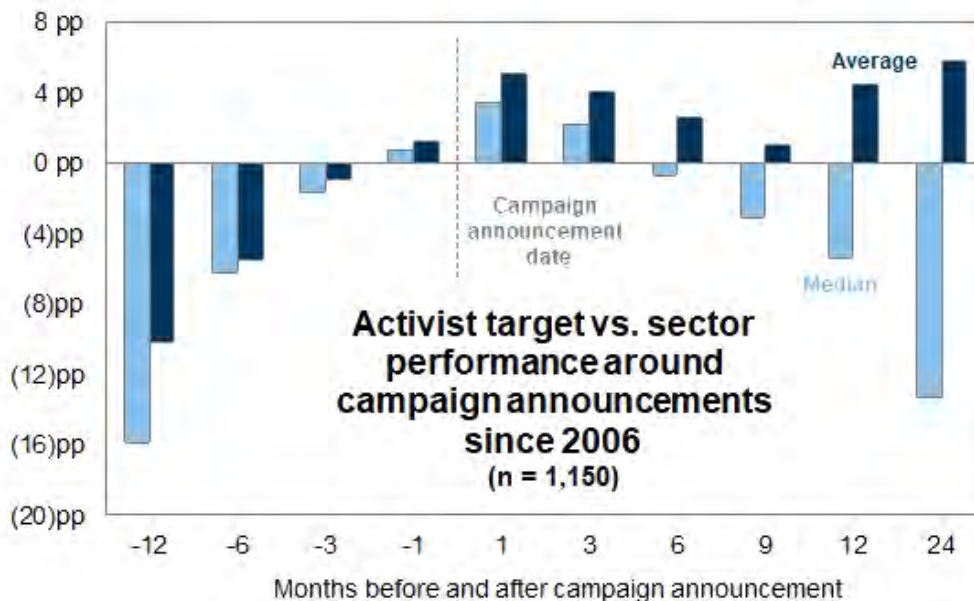
- **Shareholder activism surged during 2022 but the pace moderated in 1Q 2023.** Activists launched 148 campaigns against 120 distinct US corporations during 2022, a roughly 20% year/year jump, ranking among the top 5 most active years since 2006. During 1Q 2023, investors launched 27 campaigns against 26 companies, a 24% decline from 4Q 2022.
- **A changing regulatory landscape and an uncertain macro environment should support shareholder activism in 2023.** The Universal proxy took effect last fall and will embolden activists during the upcoming proxy season. The valuation decline and increased cost of capital means activist investors will focus on profitability and idiosyncratic opportunities of potential targets.
- **Our analysis covers 2,142 shareholder activism campaigns launched since 2006 with a corporate valuation demand against Russell 3000 companies.**
- **For INVESTORS:** The median stock targeted by activist investors outperformed its sector by 3 pp in the week after the launch of a campaign. However, excess returns were short-lived and typically turned negative after six months. While 69% of targeted stocks outperformed during the first week, after one year only 42% of stocks outperformed their respective sectors and the median stock lagged by 5 pp. A wide performance distribution exists for both successful and unsuccessful activist campaigns and varies by type of activist demand. While the median activist target lagged its sector, the average activist target outperformed by 4 pp over 12 months. The asymmetric nature of returns suggests that "piggyback" portfolio managers with a consistent approach to investing in activist targets can generate positive returns over time.
- **For MANAGEMENTS:** We identify four metrics relative to the sector median that are associated with an increased likelihood of becoming an activist target: (1) Slower trailing sales growth, (2) lower trailing EV/sales multiple, (3) weaker trailing net margin, and (4) trailing 2-year underperformance. Note that low realized sales growth relative to the sector median is the metric most associated with a target company's share price outperformance following the

launch of an activist campaign. Exhibit 19 lists 116 stocks that have experienced at least 10 pp slower realized sales growth relative to its sector median over the past 12 months and at least one source of vulnerability.

Portfolio manager summary in four pictures

1. The median target outperformed its sector during the weeks following a campaign but underperformed over 1- and 2-years. Average excess returns remain positive.

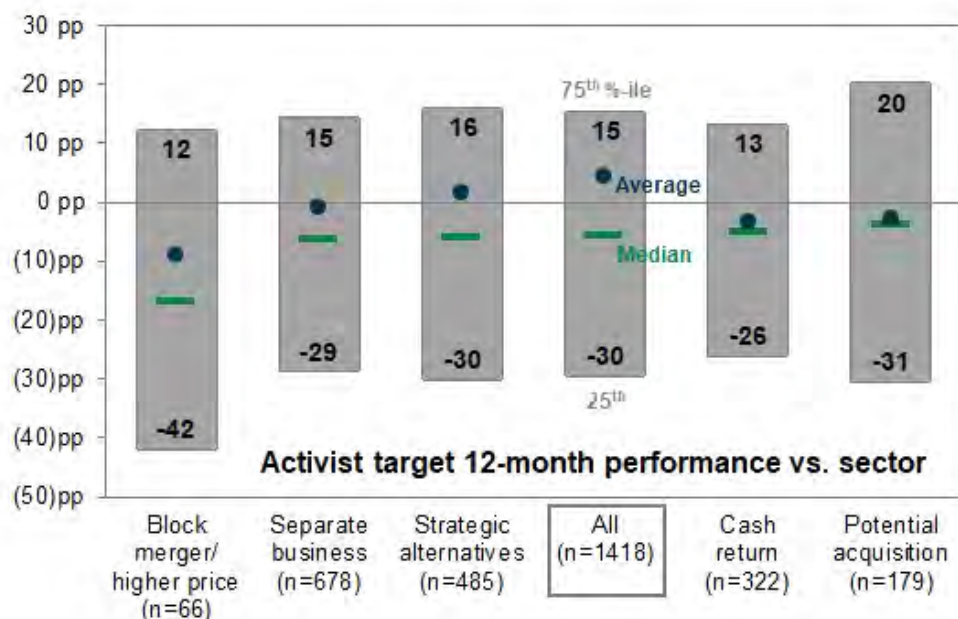
Exhibit 1: Performance of companies targeted by activist investors



Source: FactSet, Goldman Sachs Global Investment Research

2. The distribution of outcomes is wide and varies by type of activist demand.

Exhibit 2: Distribution of 12-month excess returns vs. sector by activist investor demand



some campaigns may have multiple demands

Source: FactSet, Goldman Sachs Global Investment Research

3. An equal-weighted portfolio of all activist targets since 2006 has generated a 3 pp average annual excess return relative to the Russell 3000.

Exhibit 3: An equal-weight portfolio of activist targets has outperformed the Russell 3000



Source: FactSet, Goldman Sachs Global Investment Research

4. Financial variables relative to sector median associated with an increased likelihood of becoming a target of an activist campaign: (1) slower trailing sales growth, (2) lower trailing EV/sales multiple, (3) weaker trailing net margin, and (4) trailing 2-year underperformance.

Exhibit 4: Importance of characteristics associated with companies targeted by activist investors

see Appendix C for notes on methodology



Shareholder activism trends

2022 ranked as one of the most active years for shareholder activism: Investors launched 148 campaigns against 120 distinct public US companies during 2022, a roughly 20% year/year increase.

Activists in 2022 also increased their focus on large-cap firms. The number of targets with a market cap greater than \$10 billion jumped by 50% year/year to the highest on record (22). The largest targets in 2022 included GOOGL (\$1.2 trillion equity cap targeted on Nov. 15 by TCI Fund Management

(<https://www.tcifund.com/files/corporateengagement/alphabet/15th%20November%202022.pdf>),

6% return since announcement vs. 4% for Russell 3000), META (\$346 billion, Oct. 24, Altimeter

(<https://medium.com/@alt.cap/time-to-get-fit-an-open-letter-from-altimeter-to-mark-zuckerberg-and-the-meta-board-of-392d94e80a18>), 68% vs. 10%), and DIS (\$222 billion, Aug.

15, Third Point (<https://a.storyblok.com/f/166217/x/2f8c72a37f/third-point-letter-to-disney-august-15-2022-tpou.pdf>), -19% vs. -3%). See Appendix A for a list of 179 activist campaigns

launched since the start of 2022.

Our analysis of corporate activism activity against Russell 3000 stocks is based on FactSet Sharkwatch data and focused on 2,142 campaigns with a value creation demand launched between 2006 and 1Q 2023. Our objective was to better understand what changes activist investors seek in the stocks they target, the financial metrics that indicate a company is vulnerable, and the share price performance of stocks subject to an activist campaign. See Appendix C for notes on our methodology.

Exhibit 5: Number of companies targeted by activist investors by market cap

see Appendix C for notes on methodology

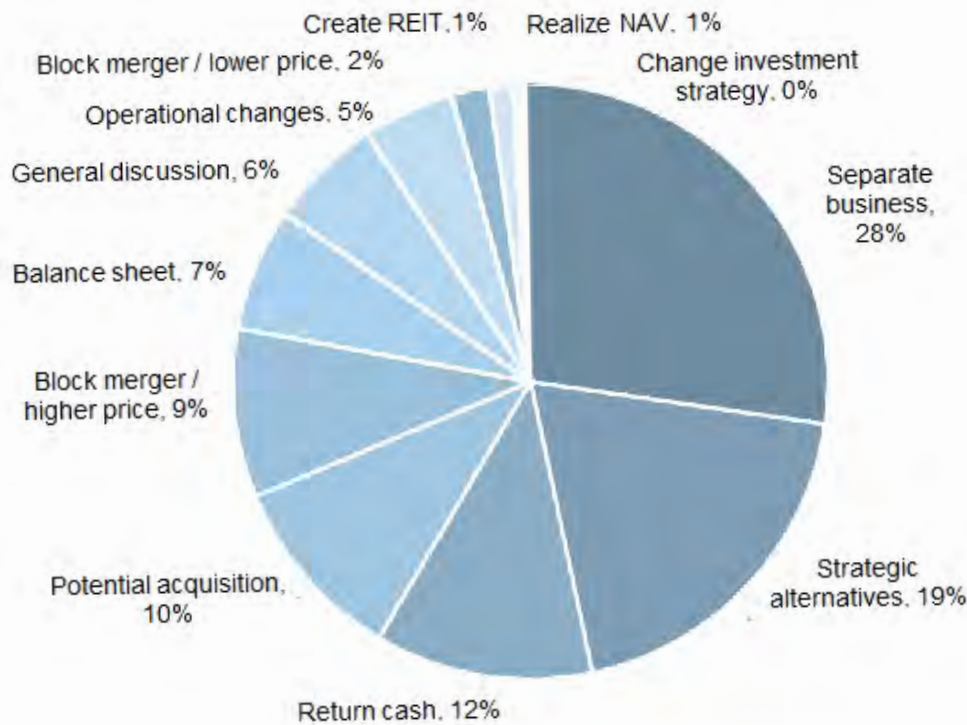


Source: FactSet, Goldman Sachs Global Investment Research

The most frequent activist investor demand involved in 28% of campaigns since 2006 has been for companies to separate its business. Other common demands include (1) review strategic alternatives (19%), (2) return cash to shareholders (12%), (3) block a proposed merger or acquisition (12%), (4) become a target of a potential acquisition (10%), and (5) increase or decrease leverage (7%). Specific demands such as realize NAV, create a REIT, or change investment strategy are less common, along with operational changes and a general discussion of strategy (Exhibit 6).

Exhibit 6: Value creation demands from activist investors

2,142 campaigns since 2006



Source: FactSet, Goldman Sachs Global Investment Research

The sector composition of activist campaigns differs from the sector composition of the S&P 500 (Exhibit 7). Over the past five years, activists targeted Consumer Discretionary (19% of activist campaigns vs. 11% of the S&P 500 index weight), Energy (10% vs. 4%), and Real Estate (7% vs. 3%) more than their index weights. In contrast, Info Tech represented a smaller share of activist campaigns (15% vs. 26% index weight).

Activist investors during 2022 launched 30 campaigns (21% of total) against Consumer Discretionary firms and 28 campaigns (19%) against Info Tech firms. Hasbro (\$13 billion equity cap) was the largest Consumer Discretionary company targeted in 2022. Alta Fox Capital Management launched a proxy fight (https://www.sec.gov/Archives/edgar/data/46080/000092189522001586/ex991dfan14a12664003_) that urged management to enact operational changes such as establishing a disciplined capital allocation framework, and encouraged the company to divest its Wizards of the Coast division. Salesforce (\$147 billion) was the largest Info Tech company targeted last year. Starboard Value seeks (<http://www.starboardvalue.com/wp-content/uploads/2022-Active-Passive-Investor-Summit-Wix.com-Ltd.-Splunk-Inc.-Salesforce-Inc.pdf>) operational changes to improve the company's mix of revenue growth and profitability. Given the sharp share price declines since the S&P 500 peaked on January 3, 2022, firms in perceived growth sectors such as Communication Services (-28% return), Consumer Discretionary (-29%), and Info Tech (-14%) will likely face continued shareholder pressure, especially those with low profitability.

Exhibit 7: Sector composition of activist targets (share of campaigns)

campaigns since 2006

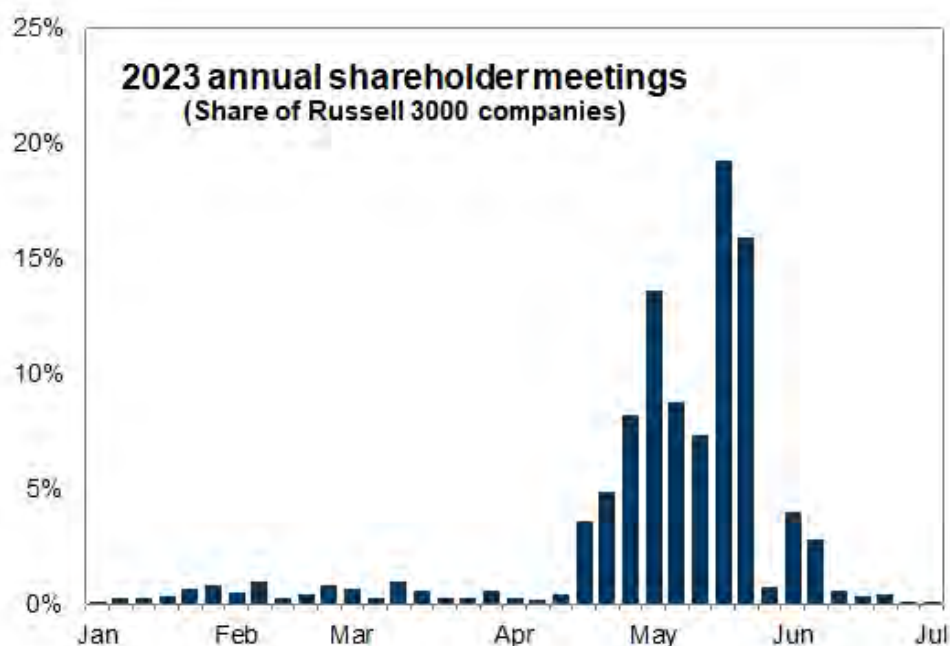
Sector	Sector composition of activist targets			5 year average S&P 500 weight	Activist target vs. sector weight
	Since 2006	5 year average	2022		
Consumer Discretionary	20%	19%	21%	11%	7 pp
Energy	8	10	3	4	6
Real Estate	5	7	9	3	4
Industrials	11	12	13	9	3
Materials	5	4	5	3	1
Utilities	2	2	1	3	(0)
Comm Services	6	8	8	9	(1)
Health Care	12	12	10	14	(3)
Financials	11	9	10	12	(3)
Consumer Staples	4	3	1	7	(3)
Info Tech	18	15	19	26	(11)

Source: FactSet, Goldman Sachs Global Investment Research

Shareholder activism in 2023

The bulk of 2023 proxy season is soon approaching. 8% of Russell 3000 companies will hold their annual shareholder meetings in the last week of April and 65% of Russell 3000 companies will hold their annual meetings during the month of May.

Exhibit 8: Annual shareholder meeting date among Russell 3000 companies



Source: FactSet, Goldman Sachs Global Investment Research

We expect shareholder activism to remain popular during 2023 as investors adapt to regulatory changes and managements navigate a macro backdrop characterized by

heightened recession risk and flat equity market returns. Activists launched 27 campaigns against 26 companies during 1Q 2023. Notable targets this year include Disney (Trian Partners (<https://www.sec.gov/Archives/edgar/data/1744489/000090266423000180/p23-0048prec14a.htm>)) and Salesforce, in which five separate activist investors have accumulated positions (Elliott Investment Management (<https://www.prnewswire.com/news-releases/elliott-statement-on-salesforce-301760269.html>), Inclusive Capital (<https://www.reuters.com/article/salesforce-inclusive-capital/activist-investor-inclusive-capital-takes-stake-in-salesforce-cnbc-idUSL4N3481YK>), Starboard Value (<http://www.starboardvalue.com/wp-content/uploads/2022-Active-Passive-Investor-Summit-Wix.com-Ltd.-Splunk-Inc.-Salesforce-Inc.pdf>), Third Point (<https://www.wsj.com/articles/third-point-llc-has-a-stake-in-salesforce-11675892173>), and ValueAct Capital Partners (<https://www.reuters.com/technology/salesforce-appoints-new-board-directors-amid-activist-investor-pressure-2023-01-27/>)).

One interesting development in 2023 has been the speed of capitulation by management

teams. In several high profile attacks, companies have announced their intention to implement several of the actions proposed or advocated by activists, thereby nullifying the need for those investors to continue to agitate for change. In the first quarter, Trian Partners withdrew (<https://trianpartners.com/wp-content/uploads/2023/02/Trian-Approves-Recent-Initiatives-Announced-by-Disney-as-a-Win-for-All-Shareholders-and-Concludes-Proxy-Campaign.pdf>) its Disney board nominations following the company's announcement of new operating initiatives. Elliott Management also launched and ended (<https://investor.salesforce.com/press-releases/press-release-details/2023/Salesforce-and-Elliott-Issue-Joint-Statement/default.aspx>) its campaign against Salesforce after the board elected a director from ValueAct.

Two new developments from the SEC – universal proxy

(<https://www.sec.gov/corpfin/universal-proxy-secg>) and amendments to Rule 14a-8

(<https://www.sec.gov/news/press-release/2022-121>) – should support shareholder activism this year by easing barriers for launching a campaign and marginally increasing activists'

willingness to threaten and pursue proxy contests to meet their demands. First, starting last fall shareholders voting by proxy have been allowed to choose among a combination of management and dissident director candidates with a universal proxy card. This change reduces the cost of launching a proxy campaign and increases the probability of at least one dissident nominee getting elected to the board of directors. Previously, shareholders voting by proxy could vote from either the company's slate or the activist's slate of nominees, but not a combination of

the two. Second, the SEC is also expected later this year to finalize amendments to the shareholder proposal rule (Rule 14a-8) later this year, which would make it more difficult for companies to exclude shareholder proposals in proxy statements.

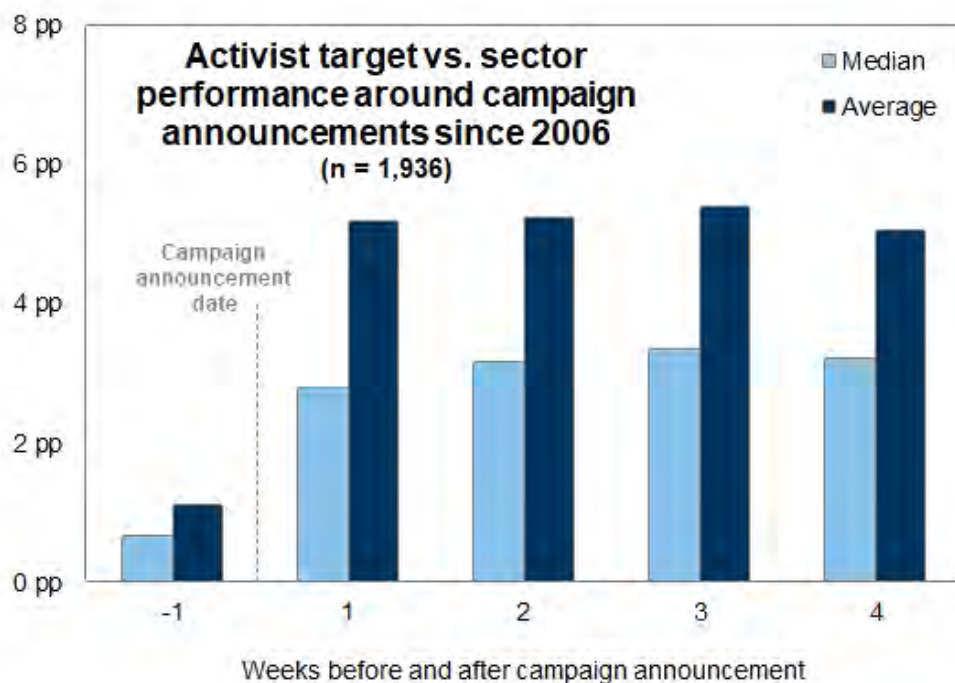
Our forecast for flat S&P 500 returns this year underscores the importance of alpha over beta and highlights the need for successful stock picking compared with last year when equity returns were more macro-driven than usual. The S&P 500 P/E multiple ranks at the 86th percentile vs. history (18x), the cost of capital has increased substantially, and economic growth has decelerated in 2023, so investors will focus on near-term corporate profitability. For example, activists might urge companies to consider spinoffs to improve margins and boost valuations (see *Revisiting our recommended playbook for investing in spinoffs* (<https://publishing.gs.com/content/research/en/reports/2023/02/15/dc57d3a0-3e4d-4903-a5ba-a4aa9a318d7f.html>)).

Performance of stocks targeted by activist investors

The typical company targeted by an activist investor has outperformed its sector during the weeks immediately following a campaign announcement (Exhibit 9). Since 2006, 69% of targeted stocks outperformed their sector during the first week after a campaign was launched. Targets outperformed their sector by a median of 3 pp and an average of 5 pp.

Positive excess returns can also be observed before a campaign is launched. Activist targets outpaced their sector by 1 pp with a 58% hit rate during the week before a campaign announcement. Gains during this period may reflect activists building their stakes and perhaps the market reacting to rumors. Investors are required to complete a Schedule 13D filing and disclose their positions within 10 days of accumulating more than 5% of a company's voting class.

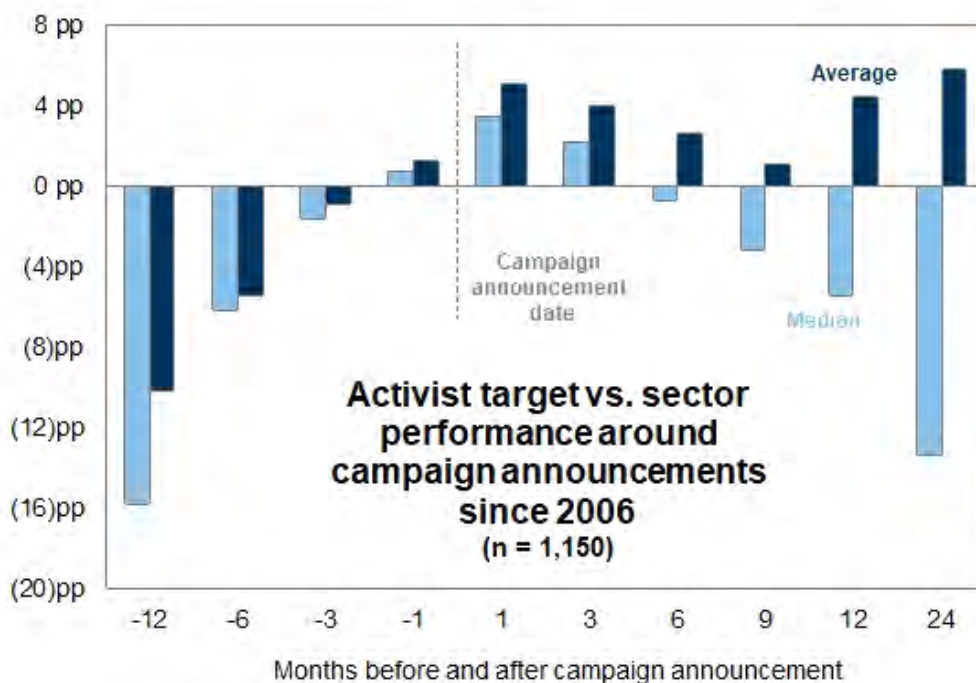
Exhibit 9: Short-term performance of companies targeted by activist investors



Source: FactSet, Goldman Sachs Global Investment Research

Despite the recent popularity of shareholder activism and the initial positive share price reaction to the news of a campaign, the median targeted company actually underperformed its sector over the longer term (Exhibit 10). Excess returns appear short-lived and typically turned negative after six months. After 1 year, only 42% of stocks had outperformed its sector and the median stock underperformed by 5 pp. At the 2-year mark, only 40% of targets outperformed and the typical stock lagged by 13 pp. The magnitude of returns were similar across successful and unsuccessful campaigns. However, although *median* excess returns are negative, *average* long-term excess returns are positive.

Exhibit 10: Performance of companies targeted by activist investors



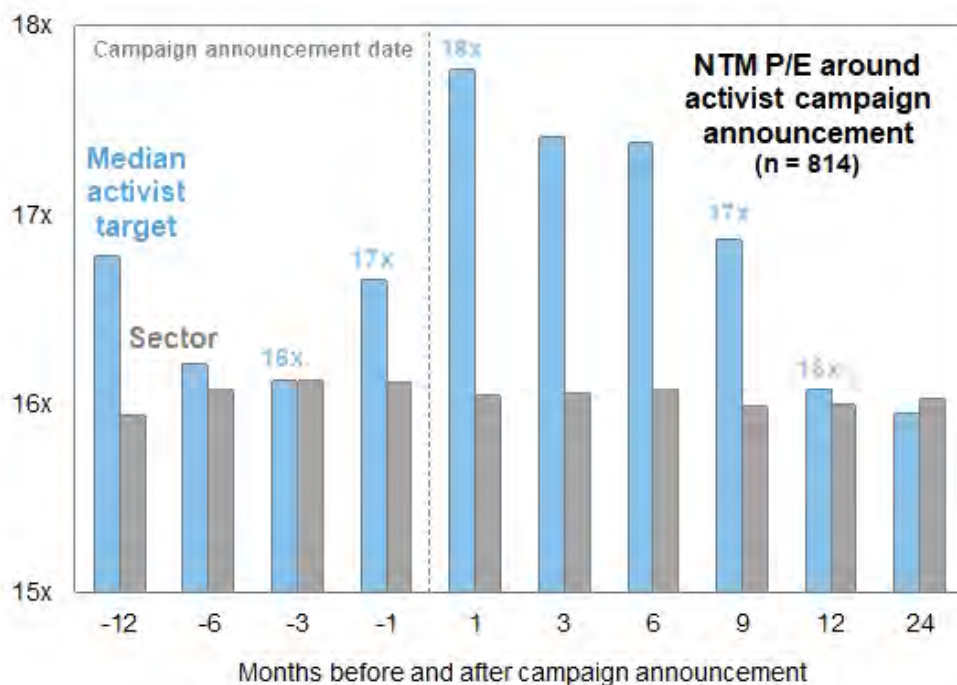
Source: FactSet, Goldman Sachs Global Investment Research

There are several possible explanations for this divergence between short-term and long-term performance. Academic research reveals a lack of consensus on the long-term impact of shareholder activism. First, the holding period for activist investors varies and an investor can generate positive returns even though the median stock underperforms its sector. Second, the market might price an overly optimistic outlook at the time of announcement, which normalizes over time. A literature review by Rafaqat et al. (2022)

(<https://ojs.amhinternational.com/index.php/jeps/article/view/3334>) analyzed more than 100 studies and concluded that shareholder activism may have a positive, negative, or insignificant effect on a targeted firm's fundamental and price performance.

The initial boost to the median target's forward P/E valuation after an activist launched a campaign tends to fade over time (Exhibit 11). The median company targeted by an activist investor traded at a 16x forward P/E three months before the announcement of an activist campaign and at an 18x forward P/E one month after a campaign was launched, reflecting a 10% multiple expansion. However, after one and two years, the P/E multiple of the median target actually reverted to 16x. In contrast, the median sector traded at a stable 16x P/E during this entire period.

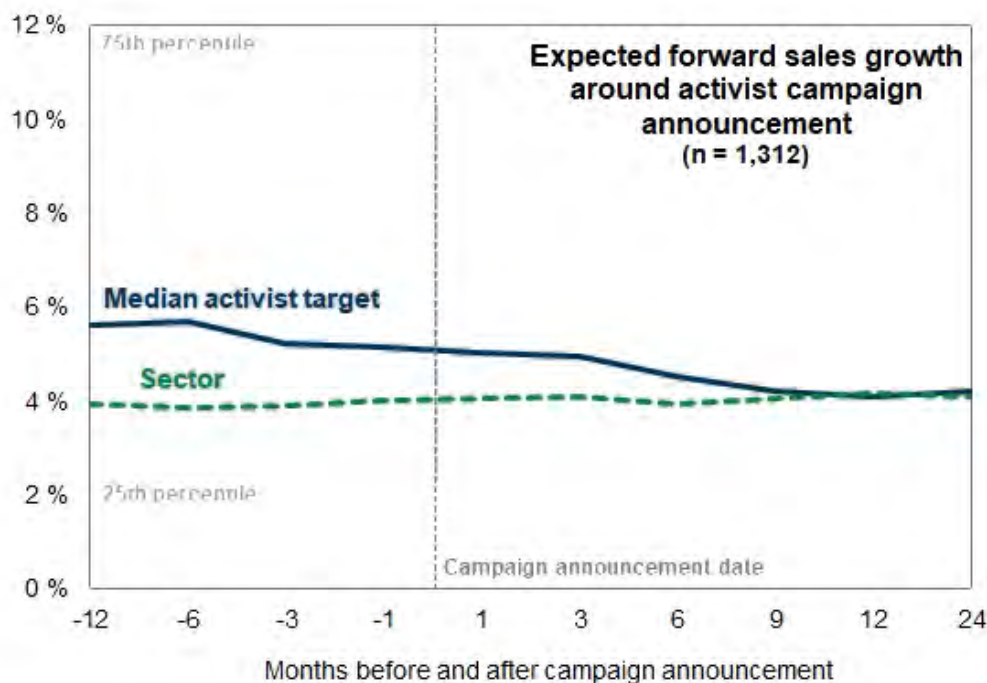
Exhibit 11: Forward P/E: Median activist target vs. sector campaigns since 2006



Source: FactSet, Goldman Sachs Global Investment Research

Fundamentally, there is no material improvement in expected forward sales growth after the involvement of an activist investor (Exhibit 12). One month before an activist campaign is launched, expected sales growth for the median company targeted by an activist investor equaled 5% (vs. 4% for the sector). One and two years after the announcement of an activist campaign, expected sales growth for the median target fell to 4%, matching the sector's expected growth rate. The lack of sustained boosts to a company's valuation or fundamentals helps explain the lack of long-term positive excess returns.

Exhibit 12: Expected forward sales growth: Median activist target vs. sector
campaigns since 2006



Source: FactSet, Goldman Sachs Global Investment Research

Opportunities for outperformance

(1) Activist Portfolio

Although the *median* activist target underperformed its sector after 12 months, the *average* activist target outperformed by 4 pp. This discrepancy between the average and median activist target can be explained by the asymmetric nature of returns, in which a few instances of extreme positive outperformance can offset the median target's underperformance. Therefore, portfolio managers with a consistent approach to investing in activist targets can generate positive returns over time.

To illustrate this, an equal weight portfolio of companies targeted by activist investors has outpaced the Russell 3000 by an annual average of 3 pp since 2006. To create our activist portfolio, we tracked the daily performance of the average activist target in an equal-weight portfolio. The strategy involved investing in the target company the day a campaign is announced and holding the position for a maximum of 12 months.

Aggregate activist returns have closely tracked the performance of our Value factor.

Intuitively, activist investing resembles value investing because activists often seek to influence or catalyze change to address sources of a company's chronic underperformance and generate shareholder value.

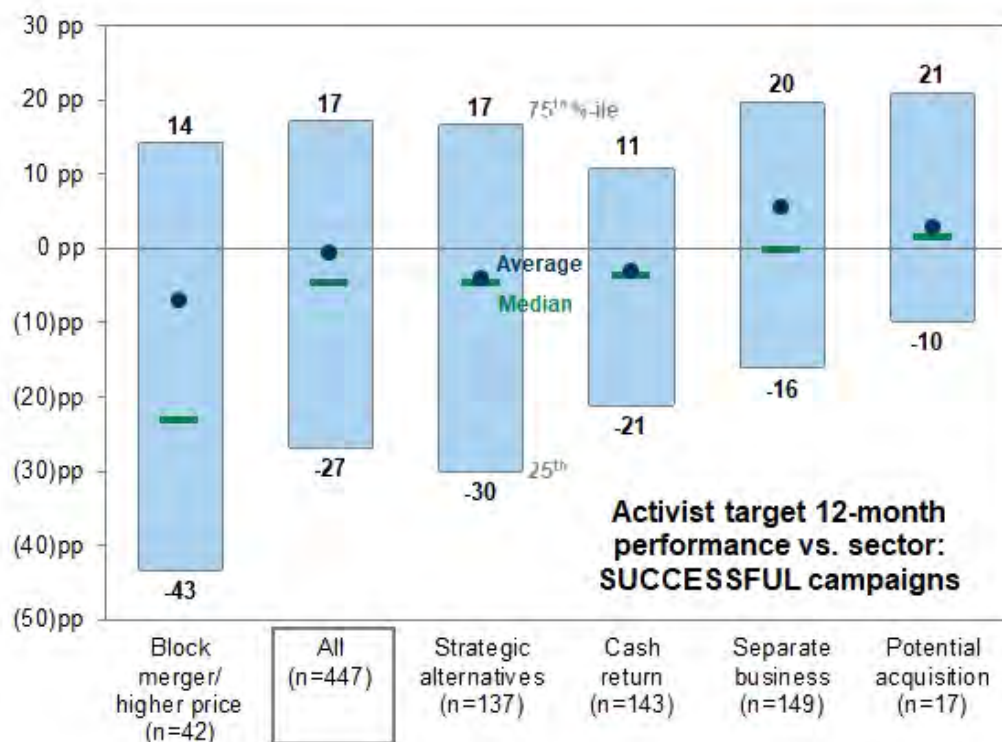
Exhibit 13: An equal-weight portfolio of activist targets has outperformed the Russell 3000

Source: FactSet, Goldman Sachs Global Investment Research

(2) Wide distribution of outcomes

The distribution of target vs. sector 12-month returns is wide and varies by both the demand type and the outcome, offering stock-pickers a large opportunity set. The median target of a successful acquisition campaign, in which the target was acquired by the activist investor, tended to outperform the median targets of other campaigns since these companies often benefit from an offer price premium. Typical excess returns equaled 2 pp and returns at the 75th percentile equaled 21 pp, the greatest amount generated among the various demands (Exhibit 14). Returns at the 25th percentile equaled -10 pp. This was the only category of activist campaigns in which the median target outperformed in both the short- and long-term. For example, TIF received and accepted LVMH's unsolicited, non-binding proposal (<https://www.lvmh.com/news-documents/press-releases/press-release-oct-28/>) to acquire the company. TIF outperformed its sector by 7 pp 12 months after the proposal announcement in October 2019.

Exhibit 14: Performance distribution of successful activist campaigns
campaigns since 2006

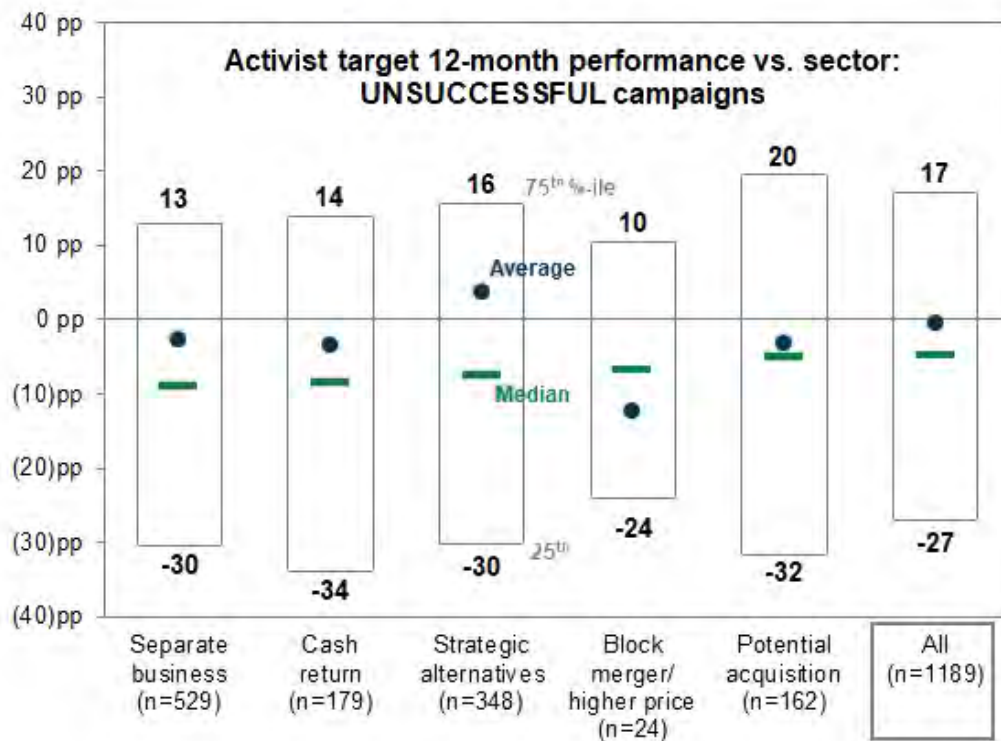


some campaigns may have multiple demands

Source: FactSet, Goldman Sachs Global Investment Research

In contrast, the median target of an unsuccessful campaign to separate the business tended to suffer poor returns (Exhibit 15). These companies were likely targeted due to investor concerns about lagging share prices, high costs, and/or low margins. For example, Starboard Value called (<https://www.sec.gov/Archives/edgar/data/935703/000092189519000032/ex1todfan14a06297246>) for Dollar Tree (DLTR) to sell its underperforming Family Dollar business in 2019 but eventually dropped its challenge. DLTR lagged the broader Consumer Discretionary sector by 27 pp 12 months after the launch of the campaign.

Exhibit 15: Performance distribution of unsuccessful activist campaigns
campaigns since 2006



some campaigns may have multiple demands

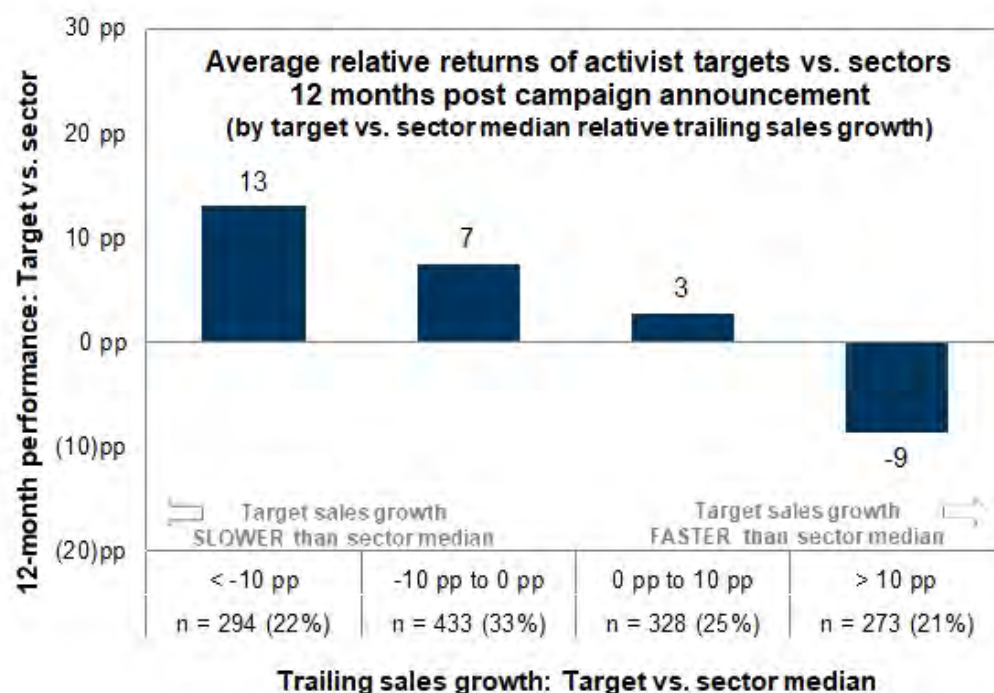
Source: FactSet, Goldman Sachs Global Investment Research

(3) Favorable target attribute

Slower realized sales growth relative to the sector median is associated with target

companies outperforming at the 1-year mark. The market consistently undervalues low expectations, so laggards have a greater opportunity for outperformance. The 12-month outperformance hit rate for stocks with slower realized sales growth relative to the sector median equaled 45% while the hit rate for stocks with faster realized sales growth relative to the sector median equaled 39%. On average, stocks with realized sales growth at least 10 pp slower than the sector median outperformed their sectors by 13 pp. In contrast, stocks with realized sales growth more than 10 pp faster than the sector median underperformed by 9 pp. This relationship between slow sales growth and outperformance was even evident during the extended Growth stock rally from 2016 to 2020.

Exhibit 16: Targets with slower sales growth relative to sector median tend to outperform after 12 months
campaigns since 2006



Source: FactSet, Goldman Sachs Global Investment Research

A guide for managements: Identifying sources of vulnerability

We utilized a probit model to analyze the performance and fundamental characteristics most associated with companies targeted by activist investors. Our universe consisted of Russell 3000 companies since 2006. See Appendix C for more details on our analysis.

We identified four financial variables relative to the sector median that are associated with an increased likelihood of becoming a target of an activist campaign: (1) slower trailing sales growth, (2) lower trailing EV/sales multiple, (3) weaker trailing net margin, and (4) trailing 2-year underperformance.

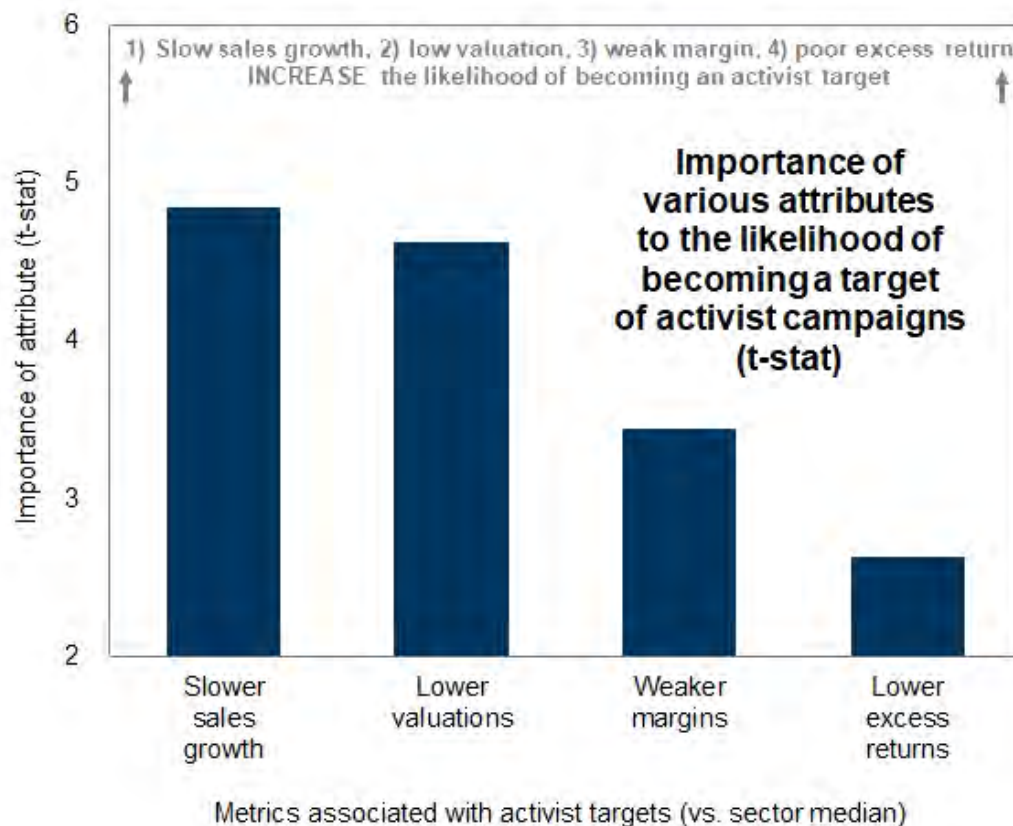
Exhibit 17: Sources of vulnerability for a potential target

Variable relative to sector median	Coefficient (n = 33,932)	p-value
Intercept	-1.747	<.0001
Growth		
Trailing EPS growth	0.000	0.545
Trailing sales growth	-0.004	<.0001
Performance		
Trailing 1-year performance	-0.062	0.193
Trailing 2-year performance	-0.076	0.009
Profitability		
Trailing net margin	-0.003	0.001
Trailing ROE	0.000	0.765
Valuation		
Trailing EV/sales	-0.061	<.0001
Size		
Market value	0.001	0.018

Source: Compustat, FactSet, Goldman Sachs Global Investment Research

For company managements, these four attributes represent potential sources of vulnerability that might prompt an activist attack. According to our probit model, sales growth has been the most important variable in determining an activist target, followed by EV/sales valuation.

Exhibit 18: Importance of characteristics associated with activist targets



Source: Compustat, FactSet, Goldman Sachs Global Investment Research

Of the 733 campaigns since 2006 with sufficient data for all four metrics, 89% had at least one identified source of vulnerability and 70% had at least two.

- 67% of targets underperformed their sectors during the 2 years prior to the campaign.
- 57% traded at an EV/sales discount.
- 55% had slower sales growth.
- 47% had weaker net margins.

Exhibit 19 identifies 116 stocks in the Russell 3000 index that may be susceptible to a campaign by an activist investor. These firms have a market cap greater than \$5 billion, at least one source of vulnerability based on our model, and experienced at least 10 pp lower realized sales growth relative to its sector median during the trailing 12 months. The median firm grew sales by -5% (vs. +10% for the Russell 3000 median), trades at 2.7x EV/sales (vs. 3.3x), has trailing net margins of 16% (vs. 14%), and has returned -1% during the last 2 years (vs. +7%). The 31 firms in italics have previously been targeted by activist campaigns.

Exhibit 19: Russell 3000 stocks vulnerable to shareholder activism (ranked by market cap within sector)

firms greater than \$5 billion in market cap, at least one source of vulnerability, trailing sales growth at least 10 pp slower than sector median; previous activist targets in italics

Ticker	Name	Sector	YTD total return	Market value (\$ billion)	GROWTH		VALUATION		PROFITABILITY		PERFORMANCE	
					Trailing sales growth		Trailing EV/sales		Trailing net margin		Trailing 2-year return	
					Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative
T	AT&T Inc.	Comm Services	9 %	\$137	(23)%	(30)pp	2.2x	5 %	NM	NM	(4)%	28 pp
EA	Electronic Arts Inc.	Comm Services	3	33	(5)	(12)	4.5	113	24	19	(10)	22
FYBR	Frontier Communications Parent	Comm Services	(13)	6	(8)	(15)	2.3	11	6	2	NM	NM
EBAY	eBay Inc.	Cons Disc	5	24	(4)	(12)	3.0	143	23	16	(25)	(4)
BBY	Best Buy Co.	Cons Disc	(5)	17	(9)	(17)	0.4	(69)	3	(3)	(26)	(5)
BURL	Burlington Stores	Cons Disc	(2)	13	(4)	(11)	1.5	27	3	(4)	(32)	(11)
KMX	CarMax	Cons Disc	8	10	(6)	(13)	0.4	(68)	1	(5)	(52)	(30)
BBWI	Bath & Body Works	Cons Disc	(11)	8	(4)	(11)	1.6	31	10	3	(25)	(3)
HAS	Hasbro	Cons Disc	(13)	7	(7)	(15)	1.9	52	11	4	(40)	(19)
WHR	Whirlpool	Cons Disc	(8)	7	(9)	(16)	0.7	(46)	NM	NM	(36)	(14)
WH	Wyndham Hotels & Resorts	Cons Disc	(6)	6	(3)	(11)	5.2	326	24	17	0	22
RH	RH	Cons Disc	(10)	5	(6)	(13)	1.9	56	14	7	(59)	(38)
NWL	Newell Brands Inc	Cons Disc	(5)	5	(10)	(18)	1.1	(9)	6	(0)	(49)	(27)
ASO	Academy Sports and Outdoors	Cons Disc	23	5	(4)	(11)	0.9	(30)	10	3	144	166
SLB	Schlumberger N.V.	Energy	(6)	70	21	(13)	2.7	56	12	10	87	20
EOG	EOG Resources	Energy	(6)	67	22	(12)	2.7	54	31	29	82	16
OXY	Occidental Petroleum	Energy	2	56	23	(10)	2.2	25	24	22	137	71
KMI	Kinder Morgan Inc Class P	Energy	(0)	39	12	(21)	3.6	110	13	12	19	(47)
WMB	Williams Companies	Energy	(8)	36	3	(31)	5.4	212	19	17	41	(25)
BKR	Baker Hughes	Energy	(2)	29	7	(27)	1.5	(13)	4	3	41	(25)
TRGP	Targa Resources Corp.	Energy	3	16	22	(12)	1.3	(27)	5	3	137	71
APA	APA	Energy	(16)	11	11	(23)	1.8	5	27	25	107	41
CHK	Chesapeake Energy	Energy	(17)	10	8	(26)	2.1	24	55	53	101	35
CHX	ChampionX	Energy	(3)	5	19	(15)	1.5	(15)	7	5	26	(40)
AM	Antero Midstream Corp.	Energy	(1)	5	5	(29)	8.8	408	36	35	39	(28)
MS	Morgan Stanley	Financials	(0)	147	(7)	(15)	NM	NM	21	21	20	31
WFC	Wells Fargo &	Financials	(6)	143	(3)	(11)	NM	NM	18	18	(0)	11
BLK	BlackRock	Financials	(6)	100	(6)	(14)	5.5	45	30	30	(7)	4
MCO	Moody's	Financials	6	56	(8)	(16)	11.1	194	26	26	4	15
AFL	Aflac Inc	Financials	(9)	40	(11)	(19)	NM	NM	19	19	32	44
TROW	T. Rowe Price Group	Financials	3	25	(13)	(21)	3.7	(1)	24	24	(28)	(17)
PFG	Principal Financial Group	Financials	(11)	18	(5)	(13)	1.6	(57)	13	13	33	44
COIN	Coinbase Global	Financials	87	16	(53)	(61)	4.5	20	NM	NM	NM	NM
L	Loews	Financials	(3)	14	(3)	(11)	NM	NM	7	7	14	25
BEN	Franklin Resources	Financials	2	13	(4)	(11)	2.1	(45)	19	19	(1)	10
CG	Carlyle Group Inc	Financials	0	11	(11)	(19)	2.9	(24)	36	36	(10)	1
FNF	Fidelity National Financial - FNF Group	Financials	(6)	10	(21)	(29)	NM	NM	10	10	(3)	8
EQH	Equitable	Financials	(14)	9	(4)	(12)	0.8	(79)	14	14	(18)	(7)
HOOD	Robinhood Markets	Financials	23	9	(14)	(21)	4.3	15	NM	NM	NM	NM
IVZ	Invesco Ltd	Financials	(10)	7	(10)	(18)	1.9	(49)	17	17	(30)	(19)
ORI	Old Republic International	Financials	4	7	(12)	(19)	NM	NM	8	8	37	48
JEF	Jefferies Financial Group Inc.	Financials	(3)	7	(24)	(32)	2.2	(43)	13	13	17	29
VOYA	Voya Financial	Financials	17	7	(25)	(33)	NM	NM	19	19	15	26
SF	Stifel Financial Corp.	Financials	0	6	(4)	(12)	NM	NM	16	16	(5)	6
HLI	Houlihan Lokey	Financials	(1)	6	(19)	(27)	NM	NM	17	17	37	49
FAF	First American Financial	Financials	8	6	(17)	(24)	NM	NM	4	4	5	16
AMG	Affiliated Managers Group	Financials	(13)	5	(3)	(11)	1.9	(50)	34	34	(4)	7

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 19 (continued): Russell 3000 stocks vulnerable to shareholder activism (ranked by market cap within sector)

firms greater than \$5 billion in market cap, at least one source of vulnerability, trailing sales growth at least 10 pp slower than sector median; previous activist targets in italics

Ticker	Name	Sector	YTD total return	Market value (\$ billion)	GROWTH		VALUATION		PROFITABILITY		PERFORMANCE	
					Trailing sales growth		Trailing EV/sales		Trailing net margin		Trailing 2-year return	
					Absolute	Relative	Absolute	Relative	Absolute	Relative	Absolute	Relative
ABT	Abbott Laboratories	Health Care	(5)%	\$176	(1)%	(11)pp	4.2x	3 %	21 %	14 pp	(13)%	25 pp
MDT	Medtronic Plc	Health Care	4	107	(2)	(12)	4.0	(1)	23	16	(28)	10
GILD	Gilead Sciences	Health Care	(3)	103	(1)	(11)	4.4	8	33	26	40	78
REGN	Regeneron Pharmaceuticals	Health Care	14	90	(19)	(29)	6.8	67	41	34	74	112
BDX	Becton, Dickinson and	Health Care	0	70	(3)	(13)	4.4	7	18	11	7	46
MRNA	Moderna	Health Care	(11)	59	(12)	(22)	3.1	(23)	37	30	17	55
BIB	Biogen Inc.	Health Care	2	40	(7)	(17)	4.0	(1)	25	18	(1)	38
ZBH	Zimmer Biomet	Health Care	1	27	(8)	(18)	4.5	11	21	14	(16)	23
ALGN	Align Technology	Health Care	57	26	(4)	(14)	6.5	60	11	4	(38)	(0)
LH	Laboratory of America	Health Care	(1)	20	(5)	(15)	1.7	(59)	12	5	(9)	29
HOLX	Hologic	Health Care	11	20	(16)	(26)	4.5	9	28	21	8	47
PKI	PerkinElmer	Health Care	(5)	17	(30)	(40)	6.3	53	28	21	4	42
DGX	Quest Diagnostics Inc	Health Care	(7)	16	(9)	(19)	2.0	(51)	10	3	14	53
BIO	Bio-Rad Laboratories	Health Care	12	14	(2)	(12)	4.8	16	16	9	(16)	22
VTRS	Viatis	Health Care	(10)	12	(8)	(18)	1.7	(58)	25	18	(26)	12
QGEN	QIAGEN NV	Health Care	(8)	10	(5)	(15)	5.2	28	25	18	(6)	32
XRAY	DENTSPLY SIRONA	Health Care	25	8	(6)	(16)	2.5	(38)	11	4	(37)	1
KRTX	Karuna Therapeutics	Health Care	(9)	6	(71)	(81)	700.3	NM	NM	NM	51	89
THC	Tenet Healthcare	Health Care	25	6	(0)	(10)	1.0	(74)	4	(3)	14	52
OGN	Organon & Co.	Health Care	(14)	6	(1)	(11)	2.3	(44)	16	9	NM	NM
EHC	Encompass Health	Health Care	3	5	(10)	(20)	1.8	(55)	6	(1)	(14)	24
IONS	Ionis Pharmaceuticals	Health Care	(2)	5	(22)	(32)	8.7	112	NM	NM	(21)	18
LMT	Lockheed Martin	Industrials	3	120	(1)	(13)	2.0	19	9	2	35	36
GE	General Electric	Industrials	44	104	(5)	(16)	1.6	(4)	4	(3)	18	19
FDX	FedEx	Industrials	34	73	(0)	(12)	0.8	(52)	4	(3)	(17)	(15)
MMM	3M	Industrials	(13)	58	(4)	(16)	2.1	22	16	9	(41)	(40)
EMR	Emerson Electric Co.	Industrials	(12)	50	(9)	(20)	3.1	83	16	9	1	2
CARR	Carrier Global Corp.	Industrials	3	38	1	(10)	2.1	22	10	3	11	13
LHX	L3Harris Technologies Inc	Industrials	(4)	37	(2)	(14)	2.5	48	14	7	1	2
OTIS	Otis Worldwide	Industrials	1	35	(3)	(14)	2.9	72	9	2	27	28
VRSK	Versk Analytics Inc	Industrials	8	30	(5)	(16)	11.7	585	28	21	10	11
EXPD	Expeditors International of Washington	Industrials	4	17	(5)	(16)	1.0	(44)	8	1	4	6
CHRW	C.H. Robinson Worldwide	Industrials	5	12	0	(11)	0.6	(67)	4	(3)	9	10
MAS	Masco	Industrials	2	11	0	(11)	1.6	(4)	10	3	(14)	(12)
FBIN	Fortune Brands Innovations	Industrials	(0)	8	(33)	(44)	2.0	20	16	9	(26)	(25)
KBR	KBR	Industrials	6	8	(7)	(18)	1.3	(22)	4	(3)	47	48
CXT	Crane NXT, Co.	Industrials	27	6	(2)	(13)	2.2	27	12	6	25	27
TREX	Trex	Industrials	16	5	(8)	(19)	5.1	196	17	10	(47)	(45)
NVDA	NVIDIA	Info Tech	89	685	2	(10)	24.8	568	18	15	108	127
INTC	Intel	Info Tech	25	135	(17)	(29)	2.6	(31)	10	7	(45)	(27)
MU	Micron Technology	Info Tech	27	66	(25)	(38)	3.0	(19)	3	0	(31)	(13)
ROP	Roper Technologies	Info Tech	1	47	(3)	(15)	9.3	150	19	16	10	29
HPO	HP Inc.	Info Tech	12	29	(6)	(18)	0.6	(84)	6	3	(2)	16
DELL	Dell Technologies	Info Tech	4	29	(1)	(14)	0.5	(87)	5	2	(7)	11
FSLR	First Solar	Info Tech	42	23	(1)	(13)	7.6	105	5	2	149	167
SWKS	Skyworks Solutions	Info Tech	23	19	(1)	(13)	3.7	(1)	32	29	(33)	(15)
TER	Teradyne	Info Tech	18	17	(14)	(26)	5.2	40	21	18	(11)	7
ZBRA	Zebra Technologies	Info Tech	18	16	2	(10)	3.1	(16)	9	6	(34)	(16)
NTAP	NetApp	Info Tech	10	14	1	(11)	2.1	(44)	19	16	(7)	11
TRMB	Trimble Inc.	Info Tech	(2)	13	1	(11)	3.8	3	18	15	(33)	(14)
WDC	Western Digital	Info Tech	21	12	(23)	(36)	1.2	(67)	NM	NM	(44)	(25)
QRVO	Qorvo	Info Tech	5	10	(23)	(36)	3.2	(14)	16	14	(44)	(26)
CGNX	Cognex	Info Tech	3	9	(4)	(16)	8.5	128	21	18	(40)	(22)
DLB	Dolby Laboratories	Info Tech	20	8	0	(12)	5.9	58	17	14	(11)	7
IPGP	IPG Photonics	Info Tech	24	6	(2)	(14)	3.5	(5)	10	7	(42)	(23)
APP	AppLovin Corp.	Info Tech	51	6	1	(12)	2.8	(26)	NM	NM	NM	NM
DXC	DXC Technology Co.	Info Tech	(5)	6	(10)	(22)	0.6	(85)	5	2	(18)	0
SCCO	Southern Copper	Materials	26	59	(5)	(14)	6.1	331	27	18	26	24
DD	DuPont de Nemours	Materials	2	33	(18)	(27)	2.8	98	13	5	(4)	(6)
IP	International Paper	Materials	5	13	(3)	(12)	0.8	(42)	6	(2)	(24)	(26)
VVV	Valvoline	Materials	8	6	(26)	(34)	3.2	123	14	5	38	36
HUN	Huntsman	Materials	(2)	5	(3)	(12)	0.8	(45)	7	(1)	0	(1)
WY	Weyerhaeuser	Real Estate	1	22	(6)	(17)	2.7	(71)	19	19	(5)	3
ELS	Equity LifeStyle Properties	Real Estate	4	12	(5)	(16)	14.2	55	25	25	10	18
Z	Zillow Group	Real Estate	40	10	(33)	(44)	1.9	(79)	NM	NM	(66)	(58)
OHI	Omega Healthcare Investors	Real Estate	1	6	(14)	(25)	15.2	67	52	52	(11)	(3)
EXC	Exelon	Utilities	1	42	(40)	(50)	4.2	1	12	12	43	36
AWK	American Water Works	Utilities	0	27	(1)	(11)	10.5	153	22	22	1	(6)
OGE	OGE Energy Corp.	Utilities	(0)	8	(6)	(16)	3.3	(21)	18	18	27	20

List median	1 %	514	(5)%	(16)pp	2.7 x	5 %	16 %	12 pp	(1)%	11 pp
Source: FactSet, Goldman Sachs Global Investment Research	5	10	3.3	14	7					
Russell 3000 firms with market cap > \$5bn										

Appendix A: Activist campaigns launched since January 2022

Exhibit 20: Activist campaigns with a value creation demand launched since January 2022

Ticker	Target	Activist	Sector	Date announced	Since announcement	
					Total return (%)	vs. sector (pp)
AEL	American Equity Investment Life Holding Co.	Brookfield Reinsurance	Financials	06-Dec-2022	(8)	(3)
AEL	American Equity Investment Life Holding Co.	Elliott Management, Prosperity Group Holdings	Financials	22-Dec-2022	(19)	(15)
AIV	Apartment Investment and Management Co.	Land & Buildings Investment Management	Real Estate	28-Sep-2022	5	1
AJRD	Aerojet Rocketdyne Holdings	Steel Partners Holdings	Industrials	01-Feb-2022	45	46
ALX	Alexander's	Lionbridge Capital	Real Estate	27-Jul-2022	(14)	(5)
ANIK	Anika Therapeutics, Inc.	Caligan Partners	Health Care	21-Feb-2023	(11)	(14)
APPF	AppFolio	Maurice J. Duca, MBA	Information Technology	10-Nov-2022	6	(7)
AVLR	Avalara	Altair US.	NA	08-Sep-2022	NM	NM
AVTA	Blucora	Engine Capital Management	Financials	14-Feb-2022	50	66
BALY	Bally's Corporation	Standard General	Consumer Discretionary	25-Jan-2022	(47)	(29)
BBBY	Bed Bath & Beyond Inc.	RC Ventures	Consumer Discretionary	07-Mar-2022	(99)	(88)
BBW	Build-A-Bear Workshop	Cannell Capital	Consumer Discretionary	26-Jul-2022	60	62
BIG	Big Lots	Mill Road Capital Management	Consumer Discretionary	15-Mar-2022	(65)	(51)
BLDE	Blade Air Mobility	RedBird Capital Partners Management	Industrials	19-Jan-2023	(32)	(34)
BLK	BlackRock	Bluebell Capital Partners	Financials	10-Nov-2022	(11)	(2)
BLKB	Blackbaud	Clearlake Capital Group	Information Technology	03-Oct-2022	50	29
CANO	Cano Health	Owl Creek Asset Management	Health Care	22-Aug-2022	(73)	(76)
CANO	Cano Health	B. Sternlicht, E. Cooperstone, L. Gold	Health Care	30-Mar-2023	33	NM
CANO	Cano Health	Barry Stuart Sternlicht, MBA, Elliot S. Coopersto	Health Care	30-Mar-2023	33	28
CBL	CBL & Associates Properties	Strategic Value Partners	Real Estate	01-Sep-2022	1	9
CBRL	Cracker Barrel Old Country Store	Biglari Capital	Consumer Discretionary	06-Jun-2022	23	28
CCK	Crown Holdings	Carl Celian Icahn	Materials	03-Nov-2022	8	(4)
CHK	Chesapeake Energy Corporation	Kimmeridge Energy Management Co.	Energy	05-May-2022	(9)	(22)
CMRX	Chimerix	Rubric Capital Management	Health Care	10-Nov-2022	(42)	(42)
CORZQ	Core Scientific	B. Riley Financial	Information Technology	14-Dec-2022	63	53
COUP	Coupa Software	Meritage Group	Information Technology	01-Dec-2022	NM	NM
COUP	Coupa Software	HMI Capital Management	Information Technology	05-Dec-2022	NM	NM
CRC	California Resources Corporation	Kimmeridge Energy Management Co.	Energy	16-Aug-2022	(12)	(28)
CRM	Salesforce	Starboard Value	Information Technology	18-Oct-2022	23	1
CRM	Salesforce	Elliott Management Corp.	Information Technology	02-Mar-2023	1	(7)
CW	Curtis-Wright Corporation	Saddle Point Management	Industrials	02-Mar-2022	16	15
DBRG	DigitalBridge Group	Legion Partners Asset Management	Real Estate	14-Dec-2022	(14)	(11)
DIS	The Walt Disney Co.	Third Point	Communication Services	15-Aug-2022	(19)	(15)
DIS	The Walt Disney Co.	Triam Fund Management	Communication Services	08-Jan-2023	7	(11)
DRE	Duke Realty Corporation	Prologis	Real Estate	10-May-2022	NM	NM
DRE	Duke Realty Corporation	Land & Buildings Investment Management	Real Estate	06-Jun-2022	NM	NM
DSKE	Daseke	Alta Fox Capital Management	Industrials	21-Apr-2022	(10)	(10)
EHC	Encompass Health Corporation	JANA Partners	Health Care	28-Feb-2022	21	16
ENV	Envestnet	Impactive Capital, Impactive Capital	Information Technology	06-Apr-2022	(21)	(17)
EVBG	Everbridge	Ancora Advisors	Information Technology	17-Mar-2022	(23)	(20)
EXEL	Exelixis	Caligan Partners, Farallon Capital Management	Health Care	20-Mar-2023	10	4
EXPR	Express	Kingdom Capital Advisors,	Consumer Discretionary	26-Jan-2023	(37)	(38)
EZPW	EZCORP. INC.	Kanen Wealth Management	Financials	07-Dec-2022	2	7
FBRX	Forte Biosciences	BML Capital Management	Health Care	24-May-2022	(5)	(9)
FIS	Fidelity National Information Services	JANA Partners	Information Technology	15-Dec-2022	(19)	(34)
FRBK	Republic First Bancorp	Norcross - Braca group	Financials	31-Jan-2022	(71)	(56)
FRBK	Republic First Bancorp	A. Cohen, H. Wildstein, H. Madonna, L. Jacobs	Financials	04-Mar-2022	(75)	(65)
FRBK	Republic First Bancorp	Norcross - Braca group	Financials	07-Jul-2022	(67)	(70)
FRPT	Freshpet	JANA Partners	Consumer Staples	22-Sep-2022	42	33
FWONK	Liberty Media Corporation	Breach Inlet Capital	Communication Services	02-Nov-2022	36	10
FXLV	F45 Training Holdings	Kennedy Lewis Management	Consumer Discretionary	30-Sep-2022	(66)	(68)
GFF	Griffon Corporation	Voss Capital	Industrials	09-Jun-2022	2	(6)
GLSH	Gelesis Holdings	KLP Enterprises, SSD2	Health Care	30-Dec-2022	(90)	(89)
GLT	Glatfelter Corporation	Asgard Investment Corp. II, Carlson Capital	Materials	17-Oct-2022	49	33
GNL	Global Net Lease	Blackwells Capital	Real Estate	25-Oct-2022	9	3
GOOGL	Alphabet Inc.	TCI Fund Management	Communication Services	15-Nov-2022	7	(8)
GPRE	Green Plains Inc.	Ancora Advisors	Energy	31-Jan-2023	(7)	(4)
GRNA	GreenLight Biosciences Holdings, PBC	Fall Line Capital	Health Care	30-Mar-2023	7	NM
GRNA	GreenLight Biosciences Holdings, PBC	Fall Line Capital	Health Care	30-Mar-2023	7	3
GRPN	Groupon	Pale Fire Capital SE	Consumer Discretionary	15-Feb-2022	(85)	(64)

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 20 (continued): Activist campaigns with a value creation demand launched since 2022

Ticker	Target	Activist	Sector	Date announced	Since announcement	
					Total return (%)	vs. sector (pp)
GRPN	Groupon	RPD Fund Management	Consumer Discretionary	27-May-2022	(74)	(70)
HAS	Hasbro	Alta Fox Capital Management	Consumer Discretionary	16-Feb-2022	(44)	(22)
HAS	Hasbro	Ancora Advisors	Consumer Discretionary	02-May-2022	(40)	(29)
HEAR	Turtle Beach Corporation	SCW Capital Management, The Donerail Group	Information Technology	03-Mar-2022	(42)	(40)
HLGN	Heliogen	Prime Movers Lab	Industrials	13-Feb-2023	(35)	(32)
HMHC	Houghton Mifflin Harcourt Co.	Breach Inlet Capital	Consumer Discretionary	23-Feb-2022	NM	NM
HMHC	Houghton Mifflin Harcourt Co.	Laughing Water Capital	Consumer Discretionary	01-Mar-2022	NM	NM
HMHC	Houghton Mifflin Harcourt Co.	Prasad Phatak	Consumer Discretionary	07-Mar-2022	NM	NM
HMHC	Houghton Mifflin Harcourt Co.	Engine Capital Management	Consumer Discretionary	09-Mar-2022	NM	NM
HMTV	Hemisphere Media Group	Edenbrook Capital	Communication Services	16-May-2022	NM	NM
HR	Healthcare Realty Trust Incorporated	Land & Buildings Investment Management	NA	16-Jun-2022	(8)	NM
HRT	HireRight Holdings Corp.	Stone Point Capital	Industrials	27-Jun-2022	(34)	(48)
HRTX	Heron Therapeutics	Rubric Capital, Velan Capital	Health Care	06-Feb-2023	(16)	(18)
HTLF	Heartland Financial USA	Orr - Fuller group	Financials	08-Mar-2022	(22)	(15)
IAA	IAA	Ancora Advisors	Industrials	15-Mar-2022	2	1
IAA	IAA	Ancora Advisors	Industrials	08-Feb-2023	(7)	(4)
IAA	IAA	Discerene Group	Industrials	15-Feb-2023	(8)	(4)
ILMN	Illumina	Carl Celian Icahn	Health Care	12-Mar-2023	17	9
INDT	Indus Realty Trust	Centerbridge Partners	Real Estate	25-Nov-2022	17	18
IVCRQ	Invacare Corporation	Azurite Management, Crawford United Corp.	Health Care	02-May-2022	(99)	(104)
JNCE	Jounce Therapeutics	Tang Capital Management	Health Care	14-Mar-2023	76	70
KIRK	Kirkland's	Osmium Partners	Consumer Discretionary	28-Apr-2022	(62)	(47)
KLR	Kaleya	TCR Acquisition	Information Technology	12-Jul-2022	(81)	(96)
KSS	Kohl's Corporation	Macellum Capital Management	Consumer Discretionary	18-Jan-2022	(47)	(23)
KSS	Kohl's Corporation	Acacia Research Corp., Starboard Value	Consumer Discretionary	04-Feb-2022	(56)	(35)
KSS	Kohl's Corporation	Macellum Advisors	Consumer Discretionary	27-May-2022	(38)	(33)
KSS	Kohl's Corporation	Ancora Advisors	Consumer Discretionary	22-Sep-2022	(6)	(3)
LAZY	Lazydays Holdings	B. Riley Financial	Consumer Discretionary	10-Mar-2022	(37)	(23)
LSI	Life Storage	Public Storage	Real Estate	05-Feb-2023	32	39
MASI	Masimo Corporation	Politan Capital Management	Health Care	16-Aug-2022	12	10
MATW	Matthews International Corporation	Barington Companies Investors	Industrials	14-Dec-2022	18	18
MDU	MDU Resources Group	Convex Management	Industrials	08-Aug-2022	6	1
MDXG	MiMedx Group	Prescience Point	Health Care	28-Apr-2022	(19)	(21)
META	Meta Platforms	Altimeter Capital Management	Communication Services	24-Oct-2022	65	51
MGNI	Magnite	Edenbrook Capital	Communication Services	10-Nov-2022	(5)	(25)
MNRO	Monro	Ides Capital Management	Consumer Discretionary	14-Jul-2022	5	3
MPAA	Motorcar Parts of America	Private Capital Management	Consumer Discretionary	19-Jul-2022	(63)	(60)
NATI	National Instruments Corporation	Emerson Electric Co.	Information Technology	17-Jan-2023	2	(11)
NAVI	Navient Corporation	Sherborne Investors Management	Financials	04-Mar-2022	1	12
NFLX	Netflix	Seven Corners Capital Management	Communication Services	28-Apr-2022	70	74
NGVT	Ingevity Corporation	Inclusive Capital Partners	Materials	07-Apr-2022	20	26
NI	NiSource Inc.	HITE Hedge Asset Management	Utilities	03-Feb-2022	0	(4)
NLSN	Nielsen Holdings plc	The WindAcre Partnership	Industrials	14-Mar-2022	NM	NM
NLSN	Nielsen Holdings plc	Brookfield Corp., Elliott Management Corp.	Industrials	21-Mar-2022	NM	NM
NTNX	Nutanix	Legion Partners Asset Management	Information Technology	30-Sep-2022	21	(4)
NWSA	News Corporation	Irenic Capital Management	Communication Services	16-Oct-2022	14	(7)
NWSA	News Corporation	T. Rowe Price Associates	Communication Services	26-Nov-2022	(3)	(19)
NWSA	News Corporation	Independent Franchise Partners LLP	Communication Services	27-Feb-2023	3	(10)
NYT	The New York Times Co.	ValueAct Capital Management	Communication Services	11-Aug-2022	13	16
ONTF	ON24	Indaba Capital Management	Information Technology	20-Dec-2022	12	(6)
ONTF	ON24	Kinesic Capital Technology Fund	Information Technology	07-Mar-2023	15	8
OPRT	Oportun Financial Corporation	Fin Capital Management	Financials	29-Mar-2023	(6)	(7)
OPRT	Oportun Financial Corporation	Fin Capital Management	Financials	29-Mar-2023	(6)	(7)
OSPN	OneSpan Inc.	Altai Capital Management	Information Technology	21-Nov-2022	33	20
PBI	Pitney Bowes Inc.	Hestia Capital Partners	Industrials	21-Nov-2022	7	7
PBI	Pitney Bowes Inc.	BWM AG	Industrials	14-Dec-2022	(9)	(8)
PGRE	Paramount Group	Monarch Alternative Capital	Real Estate	25-Feb-2022	(56)	(42)
PINS	Pinterest	Elliott Management Corp.	Communication Services	01-Aug-2022	41	39
PLAN	Anaplan	Convex Management, JS Capital Management	Information Technology	17-Mar-2022	NM	NM
PLAN	Anaplan	Sachem Head Capital Management	Information Technology	17-Mar-2022	NM	NM

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 20 (continued): Activist campaigns with a value creation demand launched since 2022

Ticker	Target	Activist	Sector	Date announced	Since announcement	
					Total return (%)	vs. sector (pp)
POWW	AMMO	S.Urban, S. Lokey	Consumer Discretionary	29-Aug-2022	(46)	(38)
PRAX	Praxis Precision Medicines	Velan Capital Investment Management	Health Care	20-Mar-2023	(10)	(15)
PRMW	Primo Water Corporation	Legion Partners Asset Management	Consumer Staples	06-Mar-2023	(3)	(7)
PRPL	Purple Innovation	Coliseum Capital Management	Consumer Discretionary	19-Sep-2022	(40)	(31)
PRPL	Purple Innovation	AWH Capital	Consumer Discretionary	15-Dec-2022	(53)	(61)
PRTK	Paratek Pharmaceuticals	NexPoint Advisors	Health Care	27-Mar-2023	38	33
PRTK	Paratek Pharmaceuticals	NexPoint Advisors	Health Care	27-Mar-2023	38	33
PRTS	CarParts.com	Kanen Wealth Management	Consumer Discretionary	15-Mar-2023	(4)	(8)
PTON	Peloton Interactive	Blackwells Capital	Consumer Discretionary	24-Jan-2022	(61)	(42)
PYPL	PayPal Holdings	Elliott Management Corp.	Information Technology	02-Aug-2022	(18)	(22)
PZN	Pzena Investment Management, Inc.	Punch & Associates Investment Management	Financials	01-Sep-2022	NM	NM
R	Ryder System	HG Vora Capital Management	Industrials	13-May-2022	6	(2)
RCM	R1 RCM	New Mountain Capital Group	Health Care	01-Jul-2022	(31)	(35)
RDUS	Radius Health	Repertoire Partners, Velan Capital	Health Care	07-Mar-2022	NM	NM
ROIC	Retail Opportunity Investments Corp.	Land & Buildings Investment Management	Real Estate	27-Jul-2022	(18)	(9)
RTL	Necessity Retail REIT	Blackwells Capital	Real Estate	25-Oct-2022	(4)	(11)
RYAM	Rayonier Advanced Materials	Chatham Asset Management	Materials	10-Mar-2022	(10)	(11)
SAFT	Safety Insurance Group, Inc.	Ides Capital Management, Jovetree Capital	Financials	18-Jan-2022	(3)	13
SAVE	Spirit Airlines	JetBlue Airways Corp.	Industrials	05-Apr-2022	(33)	(34)
SAVE	Spirit Airlines	JetBlue Airways Corp.	Industrials	16-May-2022	(7)	(16)
SAVE	Spirit Airlines	TIG Advisors	Industrials	28-Jun-2022	(22)	(36)
SAVE	Spirit Airlines	Discovery Capital Management	Industrials	12-Jul-2022	(26)	(42)
SBOW	SilverBow Resources	Kimmeridge Energy Management Co.	Energy	23-Sep-2022	2	(23)
SCOR	comScore	180 Degree Capital Corp.	Communication Services	17-May-2022	(30)	(27)
SCU	Sculptor Capital Management	Daniel Saul Och	Financials	04-Oct-2022	(22)	(23)
SIX	Six Flags Entertainment Corporation	Land & Buildings Investment Management	Consumer Discretionary	21-Dec-2022	14	4
SLM	SLM Corporation	Impactive Capital, Impactive Capital	Financials	10-Mar-2022	(21)	(11)
SLVM	Sylvamo Corporation	Atlas FRM	Materials	22-Apr-2022	15	18
SPLK	Splunk Inc.	Hellman & Friedman	Information Technology	04-Mar-2022	(30)	(29)
SPLK	Splunk Inc.	Starboard Value	Information Technology	01-Oct-2022	21	(4)
SPTN	SpartanNash Co.	Ancora Advisors, Macellum Advisors	Consumer Staples	18-Mar-2022	(27)	(32)
TA	TravelCenters of America Inc.	ARKO Corp.	Consumer Discretionary	27-Mar-2023	(0)	(3)
TMX	Terminix Global Holdings	Independent Franchise Partners LLP	Consumer Discretionary	09-Feb-2022	NM	NM
TOI	The Oncology Institute	Havencrest Capital Management	Health Care	11-Jul-2022	(88)	(92)
TOI	The Oncology Institute	M33 Growth	Health Care	12-Jul-2022	(88)	(93)
TPL	Texas Pacific Land Corporation	ATG Capital Management	Energy	14-Nov-2022	(31)	(26)
TRHC	Tabula Rasa Healthcare	Indaba Capital Management	Health Care	01-Jun-2022	76	71
TSE	Trinseo Public Limited Co.	M&G Investment Management	Materials	10-May-2022	(46)	(48)
TTSH	Tile Shop Holdings	Kanen Wealth Management	Consumer Discretionary	22-Jul-2022	49	55
TWTR	Twitter	Elon Reeve Musk	Communication Services	14-Apr-2022	NM	NM
U	Unity Software	AppLovin Corp.	Information Technology	09-Aug-2022	(39)	(42)
UNVR	Univar Solutions Inc.	Engine Capital Management	Industrials	30-Nov-2022	6	8
VIVO	Meridian Bioscience	Impactive Capital, Impactive Capital	Health Care	04-Feb-2022	NM	NM
VLDR	Velodyne Lidar	Michael E. Dee	NA	27-Jan-2023	NM	NM
VRE	Veris Residential	Kushner Cos.	Real Estate	20-Oct-2022	26	14
VRE	Veris Residential	Bow Street	Real Estate	21-Oct-2022	2	(8)
VRE	Veris Residential	Madison International Realty Holdings	Real Estate	13-Jan-2023	(7)	(3)
VRRM	Verra Mobility Corp.	Scopia Capital Management	Information Technology	03-Feb-2022	6	12
VRS	Verso Corp	James M. Hoak	Materials	13-Jan-2022	NM	NM
VRSK	Verisk Analytics	D. E. Shaw & Co.	Industrials	17-Mar-2022	(5)	(4)
WDC	Western Digital Corporation	Elliott Management Corp.	Information Technology	03-May-2022	(38)	(41)
WEN	The Wendy's Co.	Triun Fund Management	Consumer Discretionary	24-May-2022	39	33
WEX	WEX Inc.	Impactive Capital	Information Technology	09-Dec-2022	15	2
ZEN	Zendesk	Janus Henderson Group Plc	Information Technology	11-Jan-2022	NM	NM
ZEN	Zendesk	Hellman & Friedman	Information Technology	10-Feb-2022	NM	NM
ZEN	Zendesk	JANA Partners	Information Technology	16-Feb-2022	NM	NM
ZEN	Zendesk	TIG Advisors	Information Technology	17-Feb-2022	NM	NM
ZEN	Zendesk	Light Street Capital Management	Information Technology	29-Aug-2022	NM	NM
ZNTL	Zentalis Pharmaceuticals	Matrix Capital Management Co.	Health Care	03-Jun-2022	(35)	(40)

Source: FactSet, Goldman Sachs Global Investment Research

Appendix B: Investors with the most number of campaigns in our universe since 2006

Exhibit 21: 20 most frequent activist investors in our database
campaigns since 2006

Name	# of campaigns	Average target return vs. sector after a campaign is announced			Most frequent demand
		3 months	6 months	12 months	
Elliott Management Corporation	53	10 pp	5 pp	0 pp	Separate business
Icahn Carl Celian	52	6	3	12	Separate business
Starboard Value LP	52	6	1	3	Separate business
JANA Partners LLC	35	9	9	(3)	Separate business
Land & Buildings Investment Management LLC	32	1	3	3	Separate business
GAMCO Asset Management, Inc.	28	7	8	8	Separate business
Clinton Group, Inc.	24	3	(4)	31	Separate business
Sandell Asset Management Corp.	24	3	(4)	(2)	Separate business
Ancora Advisors LLC	23	5	1	11	Separate business
Engaged Capital LLC	20	7	(6)	5	Separate business
Relational Investors LLC	18	1	(1)	4	Separate business
Corvex Management LP	16	13	10	13	Separate business
ValueAct Capital Management L.P.	15	18	5	11	Strategic alternatives
Triar Fund Management, L.P.	15	6	7	7	Separate business
Engine Capital Management LP	15	23	17	44	Separate business
Legion Partners Asset Management, LLC	15	6	4	0	Separate business
Marcato Capital Management LP	14	3	1	(11)	Cash return
Cowen Investment Management LLC	13	15	5	15	Separate business
Discovery Group I, LLC	13	(2)	(18)	(15)	Strategic alternatives
Third Point LLC	13	10	5	(0)	Separate business

Source: FactSet, Goldman Sachs Global Investment Research

Appendix C: Notes on methodology

Activism data

Our database of corporate activism activity against Russell 3000 stocks is based on FactSet Sharkwatch data. FactSet sources a combination of company and dissident filings, press releases, financial news, company websites, and financial trade publications. Each campaign is categorized with an objective (e.g., maximize shareholder value) and if applicable, a corporate

value creation demand (e.g., return cash) or governance demand (e.g., compensation enhancements). A campaign is defined by FactSet when a shareholder makes public demands of the company. As a result, any shareholder who states various measures they believe the company should make is considered an "activist investor."

Our analysis covered 2,142 campaigns announced since 2006 that had a value creation

demand. Our objective was to better understand how activist investors seek to create value via fundamental changes in a company. We acknowledge that activist investors can launch campaigns for a variety of other reasons, such as to remove director(s) from a board or to request disclosure reports. However, we found similar results when we expanded the universe to include these other types of campaigns.

For each analysis, we utilized as much of the dataset as possible. For example, when analyzing the performance of targets 1 year after a campaign announcement, we included all companies with performance data at the 1-year mark. When analyzing the performance of targets 1 week after a campaign announcement, we included all companies with performance data at the 1-week mark, regardless of if there is performance data beyond that point.

Probit model on target selection

We utilized a probit model to assess the impact of various absolute and relative fundamental and performance metrics on (1) target vs. sector outperformance and (2) target selection. We considered the following trailing metrics at the time of campaign announcement: trailing 2-year performance, EV/sales, EPS growth, sales growth, net margin, ROE, and equity cap (size). The interpretation of the coefficients in a probit regression is not as straightforward as the interpretation of linear regression coefficients. Therefore, we focused on the sign of the coefficient estimate and the coefficient's significance. A positive coefficient indicates that an increase in a predictor is associated with an increase in probability of the designated outcome.

Our starting universe consisted of monthly Compustat performance and fundamental data for Russell 3000 companies since 2006. Since fundamental data do not typically change on a month-by-month basis, we calculated each stock's yearly average of each metric for the regression. A similar process was applied to calculate metrics for the sector median. The dataset ultimately used for the model consisted of yearly fundamental and performance data for Russell 3000 constituents relative to their sector medians. A company was flagged as a target if a campaign was launched during the year. Running the model with time fixed effects did not change the coefficient sign or significance of the four variables.

Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to www.gs.com/research/hedge.html (<https://www.gs.com/research/hedge.html>).

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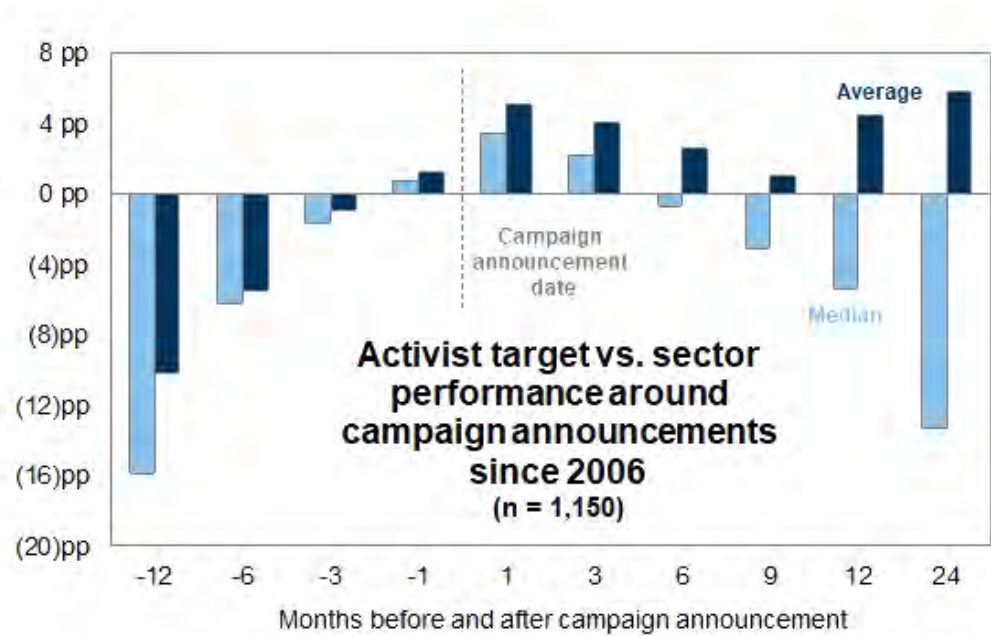
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