

Impact of Institutional Coordination on Analyst Decisions During Hedge Fund Activism

Xiaohui Yang
Fairleigh Dickinson University

Karen C. Denning
Fairleigh Dickinson University

Bing Chen
Wenzhou-Kean University

Enxi An
Salem College

This study explores the influence of institutional investor coordination on analyst recommendations in the context of hedge fund activism. We find that analysts are more likely to upgrade and less likely to downgrade their recommendations for firms with growing institutional ownership, while institutional coverage primarily influences upgrade predictions. The effect is more pronounced when activists have a track record of acquiring firms with institutional investor backing. Our analysis also shows that during crisis, analysts emphasize collective institutional actions, whereas in normal periods, they focus on ownership levels. These findings suggest that institutional coordination reduces analyst uncertainty and positively shapes their opinions during activist campaigns.

Keywords: institutional coordination, analyst recommendations, hedge fund activism

INTRODUCTION

The influence of institutional investors on financial analysts' decision-making remains a topic of ongoing interest and debate. This study examines the impact of institutional coordination on analyst recommendations in the context of hedge fund activism. Literature has suggested that activist hedge funds orchestrate the formation of "wolf pack", which is the group of institutional investors that take collective actions to support hedge fund activist's campaign (Wong, 2020; Coffee and Palia, 2016; Briggs, 2007). Specifically, the lead activist, required to file a Schedule 13D upon acquiring 5% or more of a target firm's stock, organizes this coalition before the 13D filing becomes public.

Analysts' recommendations for a target firm should reflect not only their assessment of the firm itself but also the intentions and potential consequences of hedge fund activism. When hedge fund activists intervene in a target firm, they may engage with or replace management, influence the firm's fundamentals,

or adopt aggressive tactics such as proxy fights, litigation, or takeovers. While activism can improve firms' stock and operating performance (Brav, Jiang, Partnoy, and Thomas, 2008; Clifford, 2008), it may also trigger conflicts with management and negative side effects (Klein and Zur, 2009; Khurana, Li, and Wang, 2018). As a result, hedge fund activism often increases uncertainty in the target firm's information environment, leaving analysts without the necessary information to confidently assess the firm's prospects and issue decisive recommendations or forecasts (Flugum and Howe, 2020).

Although hedge fund activism complicates analysts' assessments, the use of institutional coordination tactics may help mitigate this challenge. Prior studies suggest that the collaborative support of institutional investors effectively boosts the activist's shareholdings, increasing the likelihood of achieving stated objectives and generating higher stock returns during the campaign. (Wong, 2020; Coffee and Palia, 2016; Briggs, 2007). Following this line of reasoning, analysts may recognize the advantages of institutional coordination tactics and, as a result, issue more favorable or fewer unfavorable assessments during activist interventions.

We test it by analyzing analysts' recommendation revisions before and after hedge fund activist interventions, comparing cases with and without institutional coordination. If analysts respond favorably to activists employing institutional coordination tactics, we expect them to be more likely to revise recommendations upward and less likely to revise downward following such interventions.

Using a combined database of analyst recommendations, institutional ownership, and hedge fund activism based on Schedule 13D filings, we construct a sample consisting of 967 Schedule 13D filings and 2,319 associated analyst recommendation changes from 1997 to 2016. We identify the formation of institutional coordination by examining institutional investors' shareholdings before and after the 13D trigger date, which occurs when a 13D filer crosses the 5% ownership threshold, triggering the requirement to file a 13D within the subsequent 10 days. For each trigger date, we focus on paired recommendations issued by analysts—one within 12 months before the trigger date and the other within 12 months after. We then calculate recommendation changes for each pair, defining Unchanged, Downgrade, and Upgrade as zero, negative, and positive recommendation changes, respectively.

We begin by testing the probability of recommendation changes before and after the trigger date for target firms with varying levels of shareholding changes. We find that, following the arrival of hedge fund activists, analysts are more likely to upgrade and less likely to downgrade recommendations for firms targeted by activists with larger changes in institutional holdings. The likelihood of upgrades is further supported by firm-analyst level regressions, where recommendation changes are modeled against changes in the number of institutional investors, controlling for analyst experience, coverage, firm size, past stock returns, stock turnover, target firm cash holdings, and target firm's synergy with the hedge fund activist.

Hedge fund activists prior experience with institutional coordination may significantly influence analysts' decision-making. We test this by regressing the change in recommendations issued by an analyst before and after the 13D trigger date on changes in institutional holdings, the activist's experience (a dummy variable indicating whether the activist has previously acquired a target firm with the support of institutional investors), and an interaction term between experience and the change in institutional holdings. We find that institutional coordination particularly influences analysts' likelihood of upgrading recommendations when the activist has prior experience acquiring target firm shares with institutional support.

Our findings further explore the impact of institutional coordination on analyst recommendations during market downturns and normal periods. This impact may vary across these periods, as institutional investors typically reduce their equity holdings during market declines (See Brunnermeier and Pedersen, 2009; Ben, Franzoni, and Moussawi, 2012). Additionally, analysts may prioritize information sources and weight the consequences of their recommendations differently during downturns when the demand for reliable research intensifies (see Loh and Mian, 2003; Sidhu and Tan, 2011). We conduct our tests by constructing two sample datasets: one for crisis periods (Q1 2001 – Q4 2002 and Q4 2007 – Q4 2009) and another for non-crisis period, comparing the coordination impact. We find that during crisis periods, the impact of institutional coordination on analysts' recommendations is primarily driven by its scale, while the degree of individual coordination plays a more significant role during normal periods.

This study extends the literature on the relationship between hedge fund activism and analyst opinions. Hedge fund activism often heightens uncertainty in a target firm's information environment, complicating analysts' ability to assess prospects and issue decisive recommendations (Brav et al., 2008, 2009; Klein and Zur, 2009; Chen and Jung, 2016; Yang, Kazemi, and Sherman, 2021, Chen, Kazemi, and Yang, 2025). Brav et al. (2008) note that analysts tend to maintain neutral ratings after the announcement of a hedge fund intervention. Flugum and Howe (2020) observe that analysts frequently adjust recommendations to a neutral "Hold" post-activism and experience declines in both forecast accuracy and activity, reflecting challenges in an uncertain environment. Yan and Yang (2021) further show that analysts are more likely to reiterate recommendations and less likely to downgrade target firms with strong management skills, recognizing that skilled managers can effectively avoid costly conflicts with activists.

Unlike these studies, our research focuses on hedge fund activism involving institutional investor collaboration and its effects on analyst research. While previous work highlights the difficulty analysts face in navigating uncertainty during activism, we demonstrate that institutional coordination helps restore analysts' confidence in assessing target firm performance.

Additionally, this study sheds light on the influence of institutional investors on sell-side analysts. Ljungqvist, Marston, Starks, Wei, and Yan (2007) find that institutional investors encourage more impartial research from analysts. However, Gu, Li, and Yang (2013) suggest that institutional investors may pressure analysts through trading commissions to issue favorable opinions supporting their stock positions. Aligning with this perspective, our findings reveal that analysts are more likely to upgrade and less likely to downgrade firms targeted by activists employing institutional coordination.

The study is organized as follows. Section 2 describes the research design. Section 3 presents the empirical results. Section 4 concludes.

DATA

We compile our sample using a comprehensive database of hedge fund activism, institutional ownership, and analyst recommendations. Hedge fund activism cases are identified through Schedule 13D filings, also known as "beneficial ownership reports," submitted to the Securities and Exchange Commission (SEC). Under Section 13(d) of the 1934 Securities Exchange Act, investors who (1) acquire more than 5% of a voting class of a company's equity securities and (2) intend to influence control of the issuer must disclose their ownership and intent within 10 days of crossing the 5% threshold.

Our dataset includes 4,122 Schedule 13D filings from 1997 to 2016, covering 2,225 target firms and 618 hedge fund activists. For each filing, we record both the 13D filing date and the corresponding trigger date, which marks when the activist surpasses the 5% ownership threshold, initiating the requirement to file the 13D form within the following 10 days.

We identify institutional coordination by focusing on institutional investment managers who filed SEC 13F forms but did not submit 13D filings within a given quarter. By manually matching the firms in our sample to those in the SEC 13F filings, we narrow the dataset to 2,146 target firms. Ownership data for these firms, excluding the lead hedge fund activists, is sourced from SEC 13F filings.

We obtain stock recommendations data from Thomson Financial's Institutional Brokers Estimate (I/B/E/S) detail file, which identifies the names of analysts covering a given stock, the stock ratings, and the report dates. We build the sample by searching for stock ratings issued by individual analysts from 1997 to 2016, with ratings ranging from 1 (strong buy) to 5 (strong sell). We reverse the ratings (e.g. strong buy now is denoted by 5 and strong sell now is denoted by 1) to allow higher ratings correspond to more favorable recommendations. We remove analysts coded as anonymous by I/B/E/S. We also remove stock observations for which fewer than two analysts have active ratings.

We focus on recommendation revisions rather than static levels, as changes in recommendations provide more insight into future stock values (Jegadeesh and Kim, 2009; Loh and Stulz, 2011). Recommendation changes are calculated as the difference between the current rating and the prior rating issued by the same analyst, with values ranging from -4 to +4. Changes are categorized as *Unchanged* (zero), *Downgrade* (negative), or *Upgrade* (positive). For each Schedule 13D filing in the sample, we

require at least one analyst to have issued a recommendation within 12 months before the filing date and another within 12 months after. Duplicate recommendations by the same analyst within the pre- or post-13D periods are excluded.

After these filtering procedures, 967 Schedule 13D filings with 743 target firms and 292 hedge fund activists are identified in our compiled databases. We observe that the number of hedge fund 13D filings had been increasing since 1997 and peaked in 2007. There are significant declines in 13D filings during the 2008 financial crisis period, and then it starts to rise again after 2009.

Table 1 presents summary statistics of our sample from 1997 to 2016, focusing on analyst recommendation changes within 12 months before and after 13D filings. The reported variables include: *HFLOWN*, which is the log of the number of shares held by hedge funds; *INSTOWN*, which is the log of the number of shares held by institutional investors; *INSTs*, which is the log of the number of institutional investors owning the stock; *AnaExp*, which is the number of years since an analyst issued their first recommendation; *Coverage*, which is the number of analysts who issued at least one recommendation for a firm during a quarter; *MgrAbility*, which is a measure of managerial ability by estimating managers' efficiency in generating revenue based on Demerjian, Lev, and McVay (2012); *MV*, which is the log of the firm's market value as of the last quarter-end; *StkRtn*, which is the stock's return over the last quarter; *Turnover*, which is calculated as the total trading volume over the last quarter scaled by the average shares outstanding during that period; *Cash*, which is the total cash holdings of a target firm; *Synergy*, which is a dummy variable equal to one if the target firm is in the same industry as firms acquired by the hedge fund in the past five years, and zero otherwise; ΔRec is the change in recommendations issued by an analyst before and after trigger date.

Table 1 shows that the average ownership by lead hedge fund activists is 15.043 in logged value (equivalent to 10 million shares), while other institutional investors hold an average of 17.564 in logged value (equivalent to 95 million shares). This suggests that leading hedge fund activists hold about a 10% stake in target firms, while institutional investors hold approximately 90%, highlighting the significant role institutional investors play during takeovers.

TABLE 1
SUMMARY STATISTICS

	N	Mean	Std Dev	Q25	Q50	Q75
<i>HFLOWN</i>	1,271	15.043	1.782	14.039	15.223	16.219
<i>INSTOWN</i>	1,373	17.564	1.405	16.783	17.647	18.389
<i>INSTs</i>	1,373	4.814	0.905	4.407	4.868	5.421
<i>AnaExp (mo)</i>	2,319	70.522	55.165	26.000	57.000	102.000
<i>Coverage</i>	2,319	3.705	2.847	2.000	3.000	5.000
<i>MgrAbility</i>	1,886	-0.018	0.131	-0.090	-0.036	0.018
<i>MV</i>	2,103	20.768	1.467	19.783	20.807	21.879
<i>StkRtn (qtr)</i>	2,103	-0.023	0.243	-0.172	-0.033	0.112
<i>Turnover (qtr)</i>	2,103	0.010	0.009	0.005	0.008	0.012
<i>Cash (yr)</i>	1,828	0.480	1.810	0.038	0.120	0.357
<i>Synergy</i>	1,869	0.110	0.313	0.000	0.000	0.000
ΔRec	2,319	-0.192	1.318	-1.000	0.000	1.000
<i>Upgrade</i>	751	1.407	0.543	1.000	1.000	2.000
<i>Downgrade</i>	1,077	-1.395	0.533	-2.000	-1.000	-1.000
<i>Unchanged</i>	491	0.000	0.000	0.000	0.000	0.000

This table presents the summary statistics of the full sample, which includes hedge fund 13D filings matched with analyst recommendation changes and institutional investment managers' 13F filings from 1997 to 2016.

The average number of institutional investors that own a stock is 4.814 in logged value. The average analyst's experience is about 71 months, and on average, at least three analysts issued at least one recommendation for a firm during a given quarter. In addition, there are a total of 2,319 cumulative stock recommendation changes in the sample, including 751 upgrades, 1,077 downgrades, and 491 unchanged recommendations. Among these, approximately 78% are one- or two-level changes, while less than 1% are three- or four-level changes.

Differences in recommendation changes arise from the diverse information sources analysts rely on (Bradshaw, 2011), with a firm's expected underlying profitability playing an important role in their evaluations. For instance, analysts are inclined to upgrade or downgrade their recommendations when a firm's discounted cash flows are expected to increase or decrease, respectively, and to issue hold recommendations when the cash flows are expected to remain stable. In addition, a common perception is that investment bank analysts issue more buy and hold recommendations than sell recommendations to maintain relationships with company management and advance their careers. However, research indicates that analysts' recommendations are also influenced by factors such as reputation and forecast accuracy, leading to an imbalance between upgrades and downgrades that differs from common perception. Our sample aligns with prior studies, and the use of separate logit regressions on upgrades, downgrades, and unchanged recommendations minimizes statistical bias.

EMPIRICAL RESULTS

To examine the impact of institutional coordination on analyst assessments, we analyze analyst recommendations before and after interventions by hedge fund activists. Specifically, we focus on 2,319 analyst recommendation changes within 12 months before and after the trigger dates, as well as quarterly changes in institutional investors' shareholdings around these dates. If analysts believe that institutional coordination can help activists achieve the stated objectives of their campaigns and lead to significant increases in the target firm's share price, we expect them to be more likely to issue upward revisions and/or less likely to issue downgrades for firms targeted by activists employing institutional coordination tactics.

Table 2 presents the firm-analyst-level logit regression analyses of recommendation changes surrounding 13D trigger dates. The dependent variables are *Up*, *Down*, and *Unchg*, which are dummy variables indicating positive, negative, and no changes in recommendations, respectively. The key independent variables are as follows: $\Delta INSTOWN$, representing the change in the logged shareholdings of institutional investors before and after 13D trigger dates; $\Delta INSTs$, capturing the change in the logged number of institutional investors during the same period. Control variables, as defined in the data section, include *AnaExp*, *Coverage*, *MV*, *StkRtn*, *Turnover*, *Cash*, and *Synergy*. Yearly fixed effects are incorporated, and standard errors are clustered at the hedge fund activist and analyst levels to account for potential correlations within these groups.

The logit regression results in Model (1) and (2) show that a one unit increase in $\Delta INSTOWN$ is associated with a 1.852 increase in the log-odds (or a 6.37 increase in the odds) of being upgraded, while it corresponds to a 2.052 decrease in the log-odds (or 0.871 decrease in the odds) of being downgraded. Both results are statistically significant at the 5% level. These findings suggest that analysts are more likely to upgrade and less likely to downgrade their recommendations for firms with rising institutional ownership.

A similar pattern is observed in Model (4) and (5), where a one-unit increase in $\Delta INSTs$ is associated with a 3.385 increase in the log-odds (equivalent to a 29.52-fold increase in the odds) of being upgraded and a 1.778 decrease in the log-odds (equivalent to a 16.9% decrease in the odds) of being downgraded. Although both results are economically meaningful, the coefficient in Model (5) is not statistically significant. This suggests that analysts tend to issue upgrades for stocks held by an increasing number of institutional investors, while exercising caution when considering downgrades for those with declining institutional coverage (McNichols and O'Brien, 1997; Barber et al., 2001).

We also find that analysts are inclined to issue upgrades for firms with high turnover. Intuitively, analysts perceive firms with high turnover as having strong future performance potential, as high turnover signals positive liquidity and market interest. Consistent with Yan and Yang (2021), analysts tend to

maintain ratings for firms with capable managers, exercising caution amid conflicting signals from superior managerial ability and activism-driven uncertainty. Additionally, the likelihood of an unchanged recommendation is negatively associated with analyst experience and the synergy with firms acquired by hedge funds over the past five years.

Overall, our findings indicate that analysts are more likely to upgrade and less likely to downgrade their recommendations for firms with increasing institutional ownership, while institutional coverage primarily predicting the likelihood of upgrades. These results suggest that analysts acknowledge the value of institutional coordination during hedge fund activism, as the support of institutional investors enhances the likelihood of activists achieving their objectives. However, analysts appear cautious about downgrading recommendations for firms experiencing a decline in institutional coverage.

TABLE 2
LOGIT REGRESSION ANALYSES OF RECOMMENDATION CHANGES

	<i>Up</i> (1)	<i>Down</i> (2)	<i>Unchg</i> (3)	<i>Up</i> (4)	<i>Down</i> (5)	<i>Unchg</i> (6)
<i>ΔINSTOWN</i>	1.852** (0.044)	-2.052** (0.037)	0.705 (0.471)			
<i>ΔINSTs</i>				3.385*** (0.007)	-1.778 (0.145)	-1.352 (0.289)
<i>AnaExp</i>	0.002 (0.117)	0.001 (0.428)	-0.005** (0.043)	0.002 (0.183)	0.001 (0.401)	-0.004* (0.056)
<i>Coverage</i>	-0.014 (0.696)	-0.012 (0.752)	0.035 (0.431)	-0.010 (0.775)	-0.017 (0.642)	0.040 (0.371)
<i>MgrAbility</i>	0.445 (0.591)	-1.410 (0.111)	1.753** (0.032)	0.437 (0.590)	-1.436 (0.103)	1.857** (0.023)
<i>MV</i>	-0.094 (0.319)	0.154* (0.099)	-0.098 (0.385)	-0.106 (0.254)	0.160* (0.085)	-0.099 (0.385)
<i>StkRtn</i>	-0.350 (0.439)	-0.181 (0.767)	0.626 (0.188)	-0.420 (0.364)	-0.196 (0.743)	0.732 (0.112)
<i>Turnover</i>	59.969*** (0.000)	-34.000 (0.261)	-28.825 (0.144)	59.720*** (0.000)	-34.320 (0.272)	-27.855 (0.162)
<i>Cash</i>	0.097 (0.490)	-0.016 (0.905)	-0.109 (0.451)	0.056 (0.688)	0.013 (0.928)	-0.097 (0.508)
<i>Synergy</i>	0.343 (0.214)	0.223 (0.401)	-0.876** (0.027)	0.350 (0.191)	0.238 (0.371)	-0.931** (0.017)
Observations	628	628	615	628	628	615
R-squared	0.0636	0.0350	0.0612	0.0640	0.0307	0.0620

This table presents the firm-analyst level logit regression analyses of recommendation changes before and after the 13D trigger dates. The dependent variables include *Up*, *Down*, and *Unchg*, which are dummy variables indicating the positive, negative, and zero changes in recommendations issued by analysts pre- and post-13D trigger dates, respectively. Independent variables of interest include: *ΔINSTOWN*, which is the change in the logged shares held by institutional investors, and *ΔINSTs*, which is the change in the logged number of institutional investors, both measured pre- and post-13D trigger dates. Control variables are as follows: *AnaExp*, *Coverage*, *MgrAbility*, *MV*, *StkRtn*, *Turnover*, *Cash*, and *Synergy*. The last three rows report the number of observations, the p-value, and the R-squared of each regression. *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

In addition to the institutional coordination itself, an activist's experience with such coordination may significantly influence analyst's perceptions. To test this, we measure an activist's experience with institutional coordination by the frequency with which the quarterly change of institutional shareholdings of a target firm through a trigger date exceeds the median change for all target firms in the same quarter. Specifically, we introduce a variable named *CoordExp*, which is a dummy variable equal to one if a hedge fund activist has prior experience acquiring a target firm with institutional coordination during its existence. We regress ΔRec on *CoordExp*, $\Delta INSTOWN$, and an interaction variable of *CoordExp* and $\Delta INSTOWN$.

TABLE 3
THE ROLE OF ACTIVIST'S EXPERIENCE WITH INSITUTIONAL COORDINATION

	<i>Up</i> (1)	<i>Down</i> (2)	<i>Unchg</i> (3)	<i>Up</i> (4)	<i>Down</i> (5)	<i>Unchg</i> (6)
$\Delta INSTOWN \times CoordExp$	3.142** (0.016)	-2.551* (0.068)	-0.065 (0.960)			
$\Delta INSTOWN$	-0.911 (0.204)	0.606 (0.498)	0.073 (0.922)			
$\Delta INSTs \times CoordExp$				3.491** (0.040)	-1.958 (0.249)	-1.448 (0.414)
$\Delta INSTs$				-1.500* (0.087)	1.346 (0.198)	-0.090 (0.930)
<i>INSTExp</i>	-0.124 (0.629)	-0.382 (0.104)	0.736** (0.027)	0.056 (0.833)	-0.497** (0.047)	0.720** (0.032)
<i>AnaExp</i>	0.002 (0.169)	0.001 (0.370)	-0.005** (0.044)	0.002 (0.188)	0.001 (0.434)	-0.004* (0.055)
<i>Coverage</i>	-0.019 (0.622)	-0.017 (0.650)	0.049 (0.293)	-0.010 (0.789)	-0.028 (0.465)	0.055 (0.243)
<i>MgrAbility</i>	0.433 (0.598)	-1.394 (0.121)	1.820** (0.037)	0.610 (0.469)	-1.615* (0.087)	1.887** (0.027)
<i>MV</i>	-0.075 (0.416)	0.169* (0.053)	-0.138 (0.208)	-0.120 (0.192)	0.202** (0.021)	-0.143 (0.201)
<i>StkRtn</i>	-0.214 (0.622)	-0.303 (0.572)	0.706 (0.141)	-0.057 (0.891)	-0.478 (0.326)	0.797* (0.096)
<i>Turnover</i>	59.562*** (0.000)	-33.908 (0.255)	-28.353 (0.155)	62.035*** (0.000)	-37.404 (0.244)	-27.116 (0.184)
<i>Cash</i>	0.083 (0.563)	0.009 (0.947)	-0.137 (0.360)	0.055 (0.710)	0.018 (0.904)	-0.115 (0.445)
<i>Synergy</i>	0.384 (0.180)	0.280 (0.304)	-1.009** (0.014)	0.303 (0.269)	0.358 (0.193)	-1.062*** (0.008)
Observations	628	628	615	628	628	615
R-squared	0.0668	0.0386	0.0703	0.0636	0.0346	0.0729

This table presents the regression analyses of recommendation changes before and after the 13D trigger dates, considering the effect of the activist's experience with institutional coordination. The dependent variables include *Up*, *Down*, and *Unchg*, respectively. Independent variables of interest are: *CoordExp*, a dummy variable equal to one if a hedge fund activist has experience acquiring a target firm with institutional support; the measures of institutional coordination: $\Delta INSTOWN$ and $\Delta INSTs$; and the corresponding interaction variables: $\Delta INSTOWN \times CoordExp$ and $\Delta INSTs \times CoordExp$. *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 3 presents the regression results. For upgrades, the coefficients on both $\Delta INSTOWN \times CoordExp$ and $\Delta INSTs \times CoordExp$ are positive and significant at the 5% level, whereas they are negative but only marginally significantly for downgrades. These findings suggest that institutional coordination plays a crucial role in influencing analysts' upgrade recommendations, particularly when the acquiring activist has prior experience in targeting firms with institutional support. Consistent with the results in Table 2, our findings also indicate that analysts act prudently when revising recommendations downward.

The financial crisis has highlighted the importance of understanding systemic financial risk. During this period, institutional investors experienced dramatic declines in profits and actively reduced their equity holdings amid sharp market drops (See Brunnermeier and Pedersen, 2009; Ben, et al., 2012; Yang and Kazemi, 2020). Meanwhile, analysts adjusted how they prioritize information and weighted the consequences of their recommendations differently during market downturns. For example, analysts often overreact to positive information and underreact to negative information, a tendency that intensifies during market downturns when demand for high-quality research surges, leading them to issue favorable reports to curry favor with management. (see Loh and Mian, 2003; Sidhu and Tan, 2011; Yang and Chen, 2021; Chen, Chen, and Yang, 2025). This context prompts us to examine whether institutional coordination still significantly influences analyst assessments during financial crises and how its impacts vary across different periods.

TABLE 4
CRISIS VS NON-CRISIS PERIODS

	Crisis Periods			Non-Crisis Periods		
	Up (1)	Down (2)	Unchg (3)	Up (4)	Down (5)	Unchg (6)
$\Delta INSTOWN$	-1.284 (0.315)	-2.269 (0.173)	2.961* (0.092)	3.324*** (0.004)	-2.285* (0.073)	-0.841 (0.496)
Observations	163	163	163	465	465	452
R-squared	0.1223	0.1027	0.0807	0.0614	0.0317	0.0676

Panel A $\Delta INSTOWN$ and Analyst Recommendations

	Crisis Periods			Non-Crisis Periods		
	Up (1)	Down (2)	Unchg (3)	Up (4)	Down (5)	Unchg (6)
$\Delta INSTs$	4.581** (0.023)	-3.956** (0.023)	0.606 (0.790)	2.707* (0.087)	-0.444 (0.770)	-2.813* (0.089)
Observations	163	163	163	465	465	452
R-squared	0.1395	0.1100	0.0617	0.0517	0.0242	0.0733

Panel B $\Delta INSTs$ and Analyst Recommendations

This table presents the regression analyses of recommendation changes before and after the 13D trigger dates, comparing crisis and non-crisis periods. We define two sample datasets based on the sub-periods: crisis periods, which include (1) the Tech bubble (Q1 2001 – Q4 2002) and (2) the 2008 financial crisis (Q4 2007 – Q4 2009), and a non-crisis period for all other times. Independent variables include: $\Delta INSTOWN$ and $\Delta INSTs$, respectively, and other control variables. *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

To answer the question, we analyze the recommendation changes before and after the 13D trigger date across crisis and non-crisis periods. Specifically, we construct two datasets corresponding to the sub-periods: crisis periods, which include (1) the Tech bubble (Q1 2001 – Q4 2002) and (2) the 2008 financial

crisis (Q4 2007 – Q4 2009), and non-crisis periods encompassing all other times. We then conduct logit regressions presented in Table 2 separately for each sub-period.

Table 4 Panel A presents the test results for the variable of interest: $\Delta INSTOWN$. Consistent with the findings in Table 2, $\Delta INSTOWN$ shows a significant positive association with the likelihood of an upgrade and a marginal negative association with the likelihood of a downgrade during non-crisis periods. However, during crisis periods, $\Delta INSTOWN$ does not exhibit significant patterns across upgrade, downgrade, or unchanged outcomes, suggesting that changes in institutional ownership have limited predictive power during market downturns.

In contrast, Table 4 Panel B reports distinct results using $\Delta INSTs$ as a measure of institutional coordination. Here, $\Delta INSTs$ is significantly associated with both upgrades and downgrades during crisis periods. Specifically, a one-unit increase in $\Delta INSTs$ corresponds to a 4.581 increase in the log-odds (or a 98.3-fold increase in the odds) of being upgraded and a 3.956 decrease in the log-odds (or a 97.8% decrease in the odds) of being downgraded. Conversely, no significant relationships are observed during non-crisis periods. These findings suggest that the number of institutional investors plays a more pronounced role in shaping analysts' decisions during financial crises.

Our findings suggest that during financial crisis periods, the quantity of institutional coordination exerts greater influence than the degree of individual coordination, whereas the reverse is true during normal times. This may be because institutional investors often substantially reduce their equity holdings during sharp market declines, and analysts seeking to maintain favor with management are less responsive to such ownership declines. Instead, analysts tend to prioritize the collective actions of investors and rely more on their own insights into the firm when making recommendations.

CONCLUSIONS

This study examines the influence of institutional coordination during hedge fund activism on analysts' attitudes toward target firms. Specifically, we analyze analyst recommendations before and after activist interventions and assess whether institutional coordination affects recommendation revisions. Our findings indicate that analysts are more likely to issue upgrades and less likely to issue downgrades for firms targeted by activists employing institutional coordination strategies. This effect is particularly pronounced when activists have prior experience acquiring firms with institutional investor support. Additionally, we find that during crisis periods, analysts place greater emphasis on the collective actions of institutional investors when forming recommendations, whereas in normal times, institutional ownership takes on a more significant role.

Overall, our findings suggest that institutional coordination is a key factor financial analysts consider in their decision-making processes during hedge fund activism. This study provides valuable insights into analysts' decision-making frameworks and offers guidance to investors on interpreting analyst recommendations in the context of activist interventions.

REFERENCES

- Ben-David, I., Franzoni, F., & Moussawi, R. (2012). Hedge fund stock trading in the financial crisis of 2007–2009. *The Review of Financial Studies*, 25(1), 1–54.
- Bradshaw, M.T. (2011). *Analysts' forecasts: What do we know after decades of work?* Working paper, Boston College, Boston.
- Brav, A., Jiang, W., Partnoy, F., & Thomas, R. (2008). Hedge fund activism, corporate governance, and firm performance. *The Journal of Finance*, 63(4), 1729–1775.
- Briggs, T. (2007). Corporate governance and the new hedge fund activism: An empirical analysis. *The Journal of Corporation Law*, 32(4), 681–737.
- Brunnermeier, M.K., & Pedersen, L.H. (2009). Market liquidity and funding liquidity. *The Review of Financial Studies*, 22(6), 2201–2238.

- Chen, J., & Jung, M.J. (2016). Activist hedge funds and firm disclosure. *Review of Financial Economics*, 29, 52–63.
- Chen, B., Kazemi, M.M., & Yang, X. (2025). Do hedge fund clients of prime brokers front-run their analysts? *International Review of Economics & Finance*, 97, 103824.
- Chen, B., Chen, W., & Yang, X. (2025). Does information asymmetry affect firm disclosure? Evidence from mergers and acquisitions of financial institutions. *Journal of Risk and Financial Management*, 18(2), 64.
- Clifford, C.P. (2008). Value creation or destruction? Hedge funds as shareholder activists. *Journal of Corporate Finance*, 14(4), 323–336.
- Coffee Jr., J.C., & Palia, D. (2016). The wolf at the door: The impact of hedge fund activism on corporate governance. *Annals of Corporate Governance*, 1(1), 1–94.
- Demerjian, P., Lev, B., & McVay, S. (2012). Quantifying managerial ability: A new measure and validity tests. *Management Science*, 58(7), 1229–1248.
- Flugum, R., & Howe, J.S., (2020). Hedge fund activism and analyst uncertainty. *International Review of Economics & Finance*, 66, 206–227.
- Gu, Z., Li, Z., & Yang, Y.G. (2013). Monitors or predators: The influence of institutional investors on sell-side analysts. *The Accounting Review*, 88(1), 137–169.
- Jegadeesh, N., & Kim, W. (2010). Do analysts herd? An analysis of recommendations and market reactions. *The Review of Financial Studies*, 23(2), 901–937.
- Khurana, I.K., Li, Y., & Wang, W. (2018). The effects of hedge fund interventions on strategic firm behavior. *Management Science*, 64(9), 4094–4117.
- Klein, A., & Zur, E. (2009). Entrepreneurial shareholder activism: Hedge funds and other private investors. *The Journal of Finance*, 64(1), 187–229.
- Ljungqvist, A., Marston, F., Starks, L.T., Wei, K.D., & Yan, H. (2007). Conflicts of interest in sell-side research and the moderating role of institutional investors. *Journal of Financial Economics*, 85(2), 420–456.
- Loh, R.K., & Mian, M. (2003). The quality of analysts' earnings forecasts during the Asian crisis: evidence from Singapore. *Journal of Business Finance & Accounting*, 30(5–6), 749–770.
- Loh, R.K., & Stulz, R.M. (2011). When are analyst recommendation changes influential? *The Review of Financial Studies*, 24(2), 593–627.
- Sidhu, B., & Tan, H.C. (2011). The performance of equity analysts during the global financial crisis. *Australian Accounting Review*, 21(1), 32–43.
- Wong, Y.T.F. (2020). Wolves at the door: A closer look at hedge fund activism. *Management Science*, 66(6), 2347–2371.
- Yan, Y., & Yang, X. (2022). Analyst Recommendations: Evidence on Hedge Fund Activism and Managerial Ability. *Review of Pacific Basin Financial Markets and Policies*, 25(01), 2250004.
- Yang, X., & Chen, W. (2021). The joint effects of macroeconomic uncertainty and cyclicity on management and analyst earnings forecasts. *Journal of Economics and Business*, 116, 106006.
- Yang, X., & Kazemi, H.B. (2020). Holdings concentration and hedge fund investment strategies. *The Journal of Alternative Investments*, 22(4), 92–106.
- Yang, X., Kazemi, B.H., & Sherman, G.M. (2021). Hedge Funds and Prime Brokers: Favorable IPO Allocations. *The Journal of Portfolio Management*, 47(8), 105–123.