Can Old Sin Make New Shame? Stock Market Reactions to the Release of Movies Re-Exposing Past Corporate Scandals

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Outline

1. Introduction
2. Research design
3. Empirical result
4. Conclusion

1.Introduction

➢Backgrounds

1. It has been commonly acknowledged that stock market investors react vigilantly to the exposure of corporate scandals.

2. When a company's past scandal is recently revisited and raked up in front of the public, whether the stock market will still responde to the re-exposure" of such an old corporate scandal is of interest.

3. The recent movie, Dark Waters, which highlighted a true story from the beginning of this century of how a tenacious attorney uncovered the dark secret of DuPont, provides such a case of response.

1.Introduction

➢Motivations

1. In accordance with the efficient market hypothesis, the re-exposed scandals, as historical information, should have already been incorporated in the stock price of companies when it was first exposed over years ago.

2. Re-exposure of past corporate are likely to rebrew negative public sentiments on the focal firms, remind investors of the firms' deviant past, thus potentially trigger short-term act against the event firms, and reevaluation and degradation of the companies‘ moral stances.

1.Introduction

➢Research questions

1. Will and how stock market reacts to the event of release of scandal re-exposing movies.

2. The mechanisms through which re-exposure of corporate scandals can incur stock market reactions.

1.Introduction

➢Related researches

- Prominent impacts of corporate scandals and misconduct on stock market have been widely documented in extant finance literature (Bernile and Jarrell 2009; Giannetti and Wang 2016).

- Few recent studies highlight the short-term impacts of stale information due to investors' limited attention. (Gilbert, Kogan, Lochstoer, and Ozyildirim 2012; Huberman and R egev 2001; Tetlock 2011).

- Stock market reactions towards corporate media coverage, including both traditional mass media like newspapers and social media platforms like Twitter has been studied (Fang and Peress 2009; Tetlock, Saar-Tsechansky, and Macskassy 2008; etc.).

1.Introduction

➢Innovations

1. **Ideal empirical context.** Movies are generally developed by integrating and narrating publicly available information and records. And the production cycle creates time span, making movies the re-exposure of past corporate scandals rather than initial discovery and exposure of fresh misconduct.

2. **Reaction mechanisms.** Detailed investigate the mechanisms that investors negatively react to the release of a movie re-exposing the past corporate scandal of a publicly listed firm, in both short term and long term.

1.Introduction

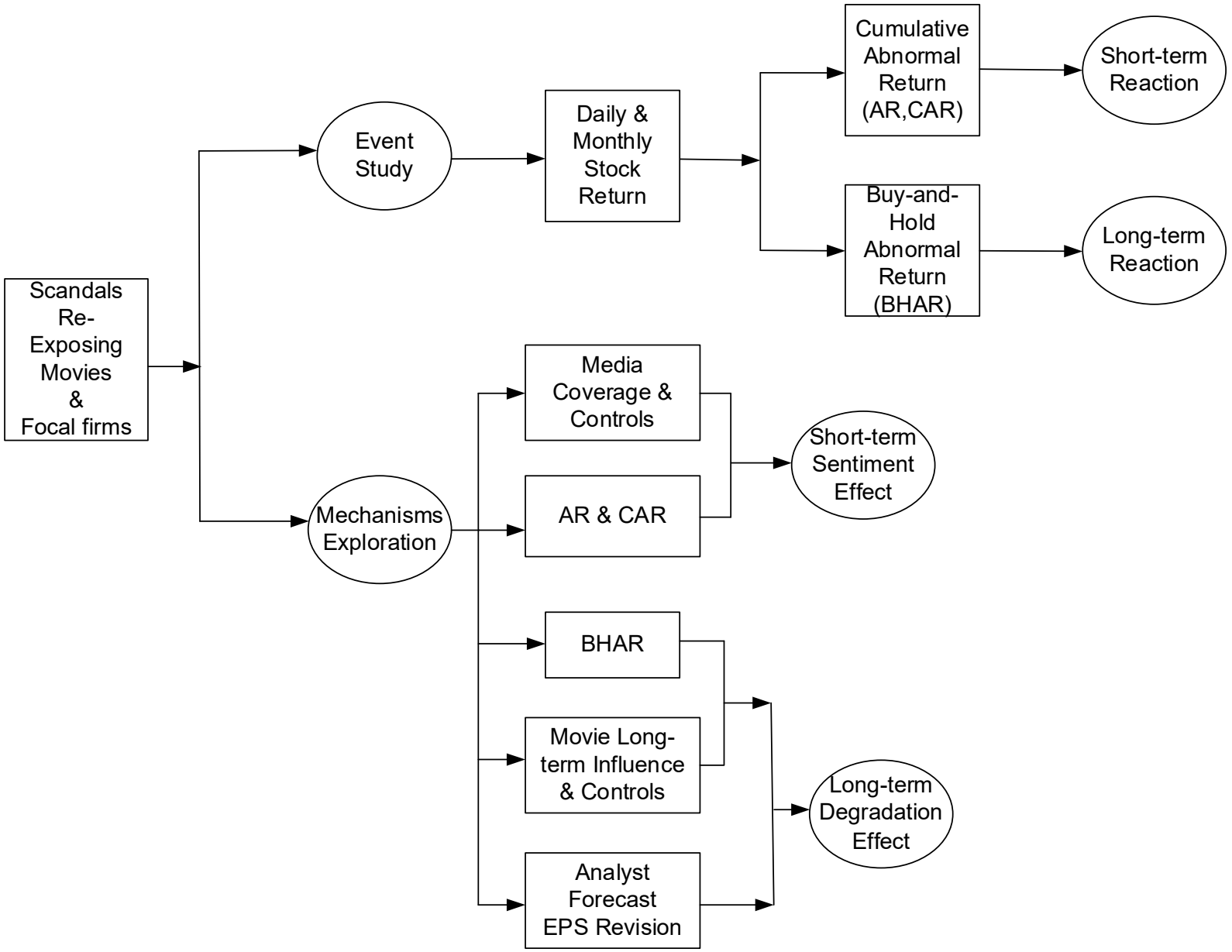
➢Contributions

1. Extend the literature on corporate scandals by highlighting the fact that re-exposing past corporate scandals can still hurt firms both in the short run and in the long run.

2. Explore a unique set of events, i.e., scandal re-exposing movies, in which the stale information about past corporate scandals is recapped, extending understanding of the impact of stale information other than investors' limited attention.

3. Extend the stream of stock market reactions towards corporate media coverage. Movies' unique feature as a comprehensive artistic expression can trigger much stronger public attention and sentiments in a short period, meanwhile only recap publicly available information rather than disclosing new information.

➢Framework for empirical analysis



2.Research design: Methods

➢Framework for empirical analysis

Event sdudy:

short term: Cumulative Abnormal Return(CAR)

long term: Buy-and-Hold Abnormal Return(BHAR), Calendar-Time Portfolio Approach

Mechanisms :

short term: sentiment effect, relationship between media-coverage and abnormal returns, controls for firms earning announcement event.

long term: degradation effect, relationship between movies influence and BHAR, controls for firm characteristics; relationship between analyst forecast EPS revision and media coverage, controls for analyst coverage and earnings event.

2.Research design: Data

- **Period:** 1999 – 2019
- **Source:**
  - **Scandal re-exposing movies:** IMDb (Internet Movie Database)
  - **Event firms:**

    CRSP: daily and monthly stock return

    Compustat: quarterly accounting information

    Yahoo!Finance, Factiva (movie news daily count)
- **Sample counts**
  - **Scandal re-exposing movies :** 16
  - **Event firms :** 35, with 8 movies covering scandals of 2 companies or above
- **Frequency:** daily, weekly, monthly

2.Research design: Sample Selection

➢scandal re-exposing movies & focal companies

First, using IMDb (Internet Movie Database), a leading online database of movie information, we identify all 379 movies that were featured by the keywords “based-on-true-story" and “business“.

Then, respectively reviewed the themes and basic narratives of all the 379 movies to screen out those that covered past incidents of real-world firms (or members thereof) that were publicly deemed unethical or illegal.

Prominent examples of these scandals include financial fraud, inside trading, environmental irresponsibility, public health hazards caused by firms' operations, corruptions and collusions, labor inequity, etc.

2.Research design: Sample Selection

➢scandal re-exposing movies & focal companies

Procedure identifies 27 movies that re-exposed past corporate scandals. For each movie, we obtain names of firms at the center of scandal as well as release dates of the movie.

Then exclude movies based on the stories of private firms, non-profit organizations, or firms that were privatized, delisted, or dissolved when the movies were released.

To be included in our sample, event firms are required to have Compustat data for at least two years, at least 120 non-missing daily returns prior to the movie release date,and at least 30 returns after the movie release date.

Our final sample is narrowed down to 16 scandal re-exposing movies and 35 movie-firm observations as reported in Table 1.

Table 1: Movies and Corresponding Listed Firms

Movie Name	Trailer Release	Limited Release	Wide Release	Public Companies Featured	Box Office (in USD)	Number of Important Awards [8]
A Civil Action		12/25/1998	1/8/1999 (Fri.)	Beatrice Foods Co W. R. Grace & Co.	56,709,981	3(0)
Rogue Trader		6/25/1999	6/25/1999 (Fri.)	Barings Bank	969,565	0(0)
The Insider		10/28/1999	11/5/1999 (Fri.)	Brown & Williamson Tobacco Co.	29,089,912	12(0)
Erin Brokovich		3/14/2000	3/17/2000 (Fri.)	Pacific Gas and Electric Company	125,595,205	9(2)
Super Size Me		5/7/2004	6/11/2004 (Fri.)	McDonald's Corp.	11,536,423	1(0)
Food Inc	4/24/2009	6/12/2009	7/31/2009 (Fri.)	Walmart Inc. Smithfield Foods Inc. Tyson Food Inc. The Monsanto Co. Chipotle Mexican Grill	4,417,674	1(0)
The Informant!	6/30/2009	9/18/2009	9/18/2009 (Fri.)	Archer-Daniels-Midland Co.	33,316,821	2(0)
Capitalism: A Love Story	6/17/2009	9/23/2009	10/2/2009 (Fri.)	Bank of America Corp. American International Group Inc.	14,363,397	0(0)
The Yes Men Fix the World		10/7/2009	10/23/2009 (Fri.)	Exxon Mobil Corp. The Dow Chemical Co. Halliburton Co.	194,533	0(0)
Inside Job	8/23/2009	10/8/2010	11/12/2010 (Fri.)	Bank of America Corp. American International Group Inc. Morgan Stanley Lehman Brothers Holdings Inc. The Goldman Sachs Group Inc.	4,312,735	1(1)
Too Big to Fail	4/15/2011	5/23/2011	5/23/2011 (Mon.)	JPMorgan Chase & Co. Bank of America Corp. Morgan Stanley The Goldman Sachs Group Inc.	N/A	1(0)
Fire in the Blood	1/2/2013	9/6/2013	9/6/2013 (Fri.)	Pfizer Inc.	28,994	0(0)
The Wolf of Wall Street	6/17/2013	12/17/2013	12/25/2013 (Wed.)	Steven Madden Ltd.	116,900,694	7(1)
The Price We Pay	3/6/2015	10/30/2015	10/30/2015 (Fri.)	Amazon.com Inc. Alphabet Inc.	N/A	0(0)
Big Short	9/22/2015	12/11/2015	12/23/2015 (Wed.)	American International Group Inc. Citigroup Inc. The Goldman Sachs Group Inc. Deutsche Bank AG	70,259,870	8(1)
Dark Waters	9/18/2019	11/22/2019	12/6/2019 (Fri.)	DuPont de Nemours Inc.	11,136,084	0(0)

Panel B. Sample Distribution By Year

Year	Number of Movies	Number of Firms
1999	3	4
2000	1	1
2004	1	1
2009	4	11
2010	1	5
2011	1	4
2013	2	2
2015	2	6
2019	1	1

Panel C. Sample Distribution By Fama-French 48 Industry

Fama-French 48 Industry	Number of Firms
Food Products	4
Tobacco Products	1
Apparel	1
Pharmaceutical Products	1
Chemicals	2
Rubber and Plastic Products	1
Coal	2
Petroleum and Natural Gas	1
Business Services	2
Wholesale	1
Retail	1
Restaurants, Hotels, Motels	2
Banking	6
Insurance	4
Real Estate	6

2.Research design: Methods

➢Event Study

Short-term Reaction: Cumulative Abnormal Return (CAR)

Date of the movie wide release: day '0'
Estimation period: day -300 to day -51
Event period: day T_1 to day T_2($T_1 < 0$, $T_2 > 0$)

$$AR_{it} = \left(R_{it} - R_{ft}\right) - \left(\hat{\alpha}_i + \hat{\beta}_i R_{Mt} + \hat{\beta}_{i,SMB} SMB_t + \hat{\beta}_{i,HML} HML_t + \hat{\beta}_{i,UMD} UMD_t\right)$$

$$CAR_i(T_1, T_2) = \sum_{T_1}^{T_2} AR_{it}$$

Test whether the average CAR across sample firms are signficantly different from zero.

2.Research design: Methods

➢Event Study

Long-term Reaction: Buy-and-Hold Abnormal Returns (BHAR)

$$BHAR_i(\tau) = \prod_{t=s}^{s+\tau}(1 + R_{it}) - R_{\tau}^{Benchmark}$$

$$R_{\tau}^{Benchmark} = \frac{\sum_{j=1}^{N}\prod_{t=s}^{s+\tau}\left(1 + R_{jt}\right)}{N}$$

Benchmark Portfolio: at the event date (day 0), sort common stocks listed on NYSE, AMEX and Nasdaq based on firm size, book-to-market ratio (BTM) and past twelve-month return (or momentum) into 125 portfolios. (dependent sort)

A benchmark portfolio is then defined as a portfolio of all non-event firms that are in the same size/BTM/momentum portfolio as the event firm at the event date.

2.Research design: Methods

➢Event Study

Long-term Reaction: Calendar-Time Portfolio Approach

To deal with potential cross-correlations among stock returns of the event firms in our sample.

$$R_{pt} - R_{ft} = \alpha_p + \beta p R_{Mt} + \beta_{p,SMB} SMB_t + \beta_{p,HML} HML_t + \beta_{p,UMD} UMD_t + \epsilon_{pt}$$

Calendar-Time Portfolio: At the beginning of each calendar month, form a value-weighted calendar-time portfolio using stocks of the event firms whose past scandals were re-exposed in a movie within the previous T month(s).

Hold portfolio for a month, rebalance monthly, minimum number of N stocks are required. Test α_p under different N, T.

2.Research design: Methods

➢Mechanism Exploration

Short-term Sentiment Effect

For each event firm i featured in the movie j for the event window [5; 20]:

$$AR_{it} = \alpha_0 + \alpha_1 MCvge_{it}^{j} + \sum_k \alpha_k Control_{it,k} + c_i + u_{it}$$

Where *AR* is the daily abnormal,$MCvge^{j}$is daily media coverage of movie *j*, *Control* is a set of firm characteristics, and *c* is the fixed effect of an event firm.

As movies usually draw more attention during weekend, it is natural to accumulate movie attention over a week. For the event window from one week before the movie release(week 0) through four weeks after the movie release (week 4) as follows:

$$CAR_{it} = \gamma_0 + \gamma_1 MCvge_{it}^{j} + \sum_k \gamma_k Control_{it,k} + z_i + v_{it}$$

2.Research design: Methods

➢Mechanism Exploration

Short-term Sentiment Effect

Control Variables:

firm media coverage (*FMcvg*): from RavenPack News Analytics, count the number of public news for each event firm on each trading day in the event window [-5,20].

earnings announcement dummy (*eDum*): from Institutional Brokers' Estimate System (I/B/E/S), equals one if the firm has an earnings announcement within the period from 22 trading days before the day (week) through 2 trading days after the day (week).

negative earnings surprise dummy (*eDumNeg*): *eDum* equals one and earning surprise (deducting split-adjusted quarterly earnings per share four quarters ago from its current value) is negative.

2.Research design: Methods

➢Mechanism Exploration

Long-term Degradation Effect

Investigate how influence of a movie affects the event firm's long-term buy-and-hold abnormal returns:

$$BHAR_i(12) = \delta_0 + \delta_1 Influence_i^j + \sum_k \delta_k \, Control_{i,k} + e_i$$

Where *BHAR(12)* is the one-year buy-and-hold abnormal,$Influence^j$ is *Log(MOVIEmeter)* of movie *j*, and *Control* is firm characteristics Log(BTM), Log(ME).

MOVIEmeter: updated on a weekly basis, a ranking statistic that measures the level of public awareness and/or interest in a movie over time based on the actual behavior of millions of IMDb users.The lower the value of MOV IEmeter is, the more influencial the movie is.

Influence: logarithm of average *MOVIEmeter* of a movie over the year.

2.Research design: Methods

➢Mechanism Exploration

Long-term Degradation Effect

Test analyst forecast revisions that are made shortly after the movie release:

$$Revision_{i,a,f,e,t} = Forecast_{i,a,f,e,t} - Forecast_{i,a,f,e,t-1}$$

$$Revision_{i,a,f,e,t}(in\%) = \frac{Forecast_{i,a,f,e,t} - Forecast_{i,a,f,e,t-1}}{Forecast_{i,a,f,e,t-1}}$$

$Revision_{i,a,f,e,t}$: EPS forecast minus the previous EPS forecast made by the same analyst for the same firm and the same period (same ticker i, same analyst a, same forecast period indicator f, same forecast period end date e) adjusted for stock splits.

2.Research design: Methods

➢Mechanism Exploration

Long-term Degradation Effect

Revisions need to satisfy 4 conditions in order to be included in the analysis:

1. previous forecast ($Forecast_{i,a,f,e,t-1}$) must be made prior to the wide release date of the movie;
2. the revision of the forecast ($Forecast_{i,a,f,e,t}$) must be made within 30 days after the wide release date of the movie;
3. fiscal year (quarter) end of this forecast (forecast period end date e) must be at least 180 (30) days after the wide release date;
4. the forecast period must be the nearest one to the release date for the same frequency.

For example, if analyst John Doe revised his forecasts for DuPont for FY 2019, FY 2020 and FY 2021 after the release of Dark Waters (12/6/2019), we only put his forecast revision for FY 2020 into the sample.

3.Empirical result

➢Event Firms Cumulative Abnormal Returns

Panel A. CAR with respect to Carhart (1997) Four-factor Model

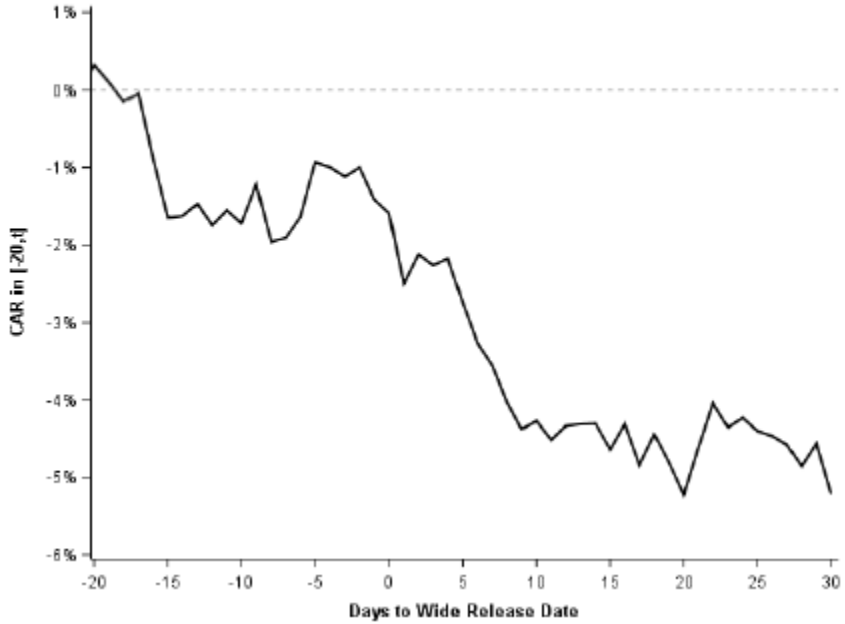
Event Window	Obs.	Percentage of Negative CAR	Mean CAR	Boehmer's et al. (1991) t-statistic	Rank Statistic
$[-1, 1]$	35	74.29%	-1.50%	-3.23	-2.02
$[-1, 10]$	35	71.43%	-3.27%	-3.21	-2.19
$[-1, 20]$	35	71.43%	-4.23%	-3.28	-2.47
$[-5, 20]$	35	68.57%	-3.59%	-2.59	-1.89
$[-5, 30]$	35	65.71%	-3.58%	-2.19	-1.77
$[-20, 30]$	35	68.57%	-5.21%	-2.81	-1.86

All t-statistic and rank statistics are significant at 5% probility level or above. High Percentage of Negative CARs rulling out possibility significance driven by few extreme observations.

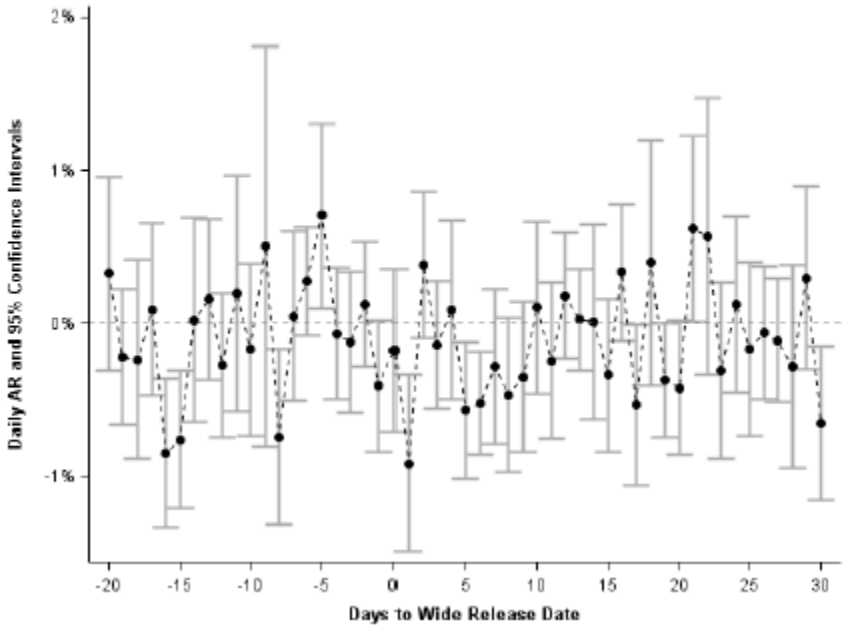
3.Empirical result

➢Short-term Market Reaction

Panel A. Mean CAR in [-20,30] with respect to Carhart (1997) Four-factor Model



Panel B. Mean AR in [-20,30] with respect to Carhart (1997) Four-factor Model



Regardless of potential pre-event information leakage and possible crisis-managing efforts taken by the event firms, the average CAR of event stocks still falls dramatically after the scadal re-exposing movies' wide release dates.

3.Empirical result

➢Event Firms Buy-and-Hold Abnormal Returns

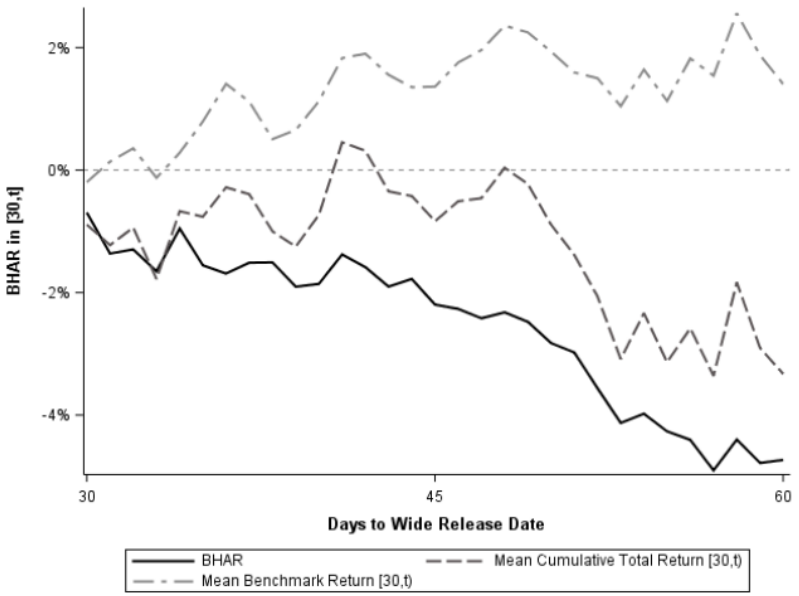
$$BHAR_i(\tau) = \prod_{t=s}^{s+\tau}(1 + R_{it}) - R_{\tau}^{Benchmark}$$

Event Window	Obs.	Percentage of Negative Abnormal Returns	Mean $BHAR$	t-Statistics	Empirical p-Value
$[30, 45]$	33	58.82%	-2.20%	-1.81	0.025
$[30, 60]$	33	69.70%	-4.73%	-2.77	0.002
$[30, 90]$	33	75.76%	-6.53%	-3.48	0.001
$[30, 120]$	33	69.70%	-8.42%	-3.36	0.002
$[30, 252]$	30	70.00%	-11.09 %	-2.28	0.014
$[30, 500]$	28	53.57%	- 0.60%	-0.06	0.451

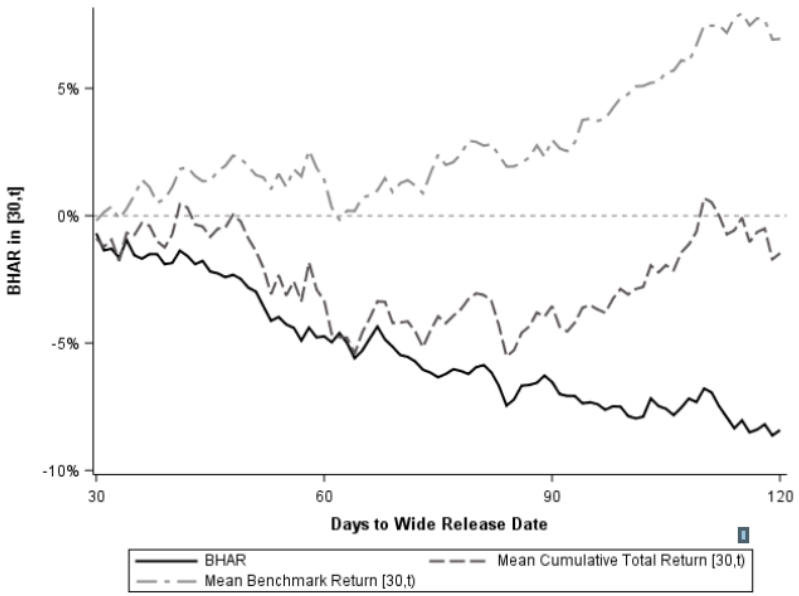
Given movies usually run around 4 weeks in the theater, and evidence from media coverage data shows that the attention on any of our sample movies would drop to close to zero after Day 30, we choose Day 30 as the start of the post-event period.

➢Long-term Market Reaction

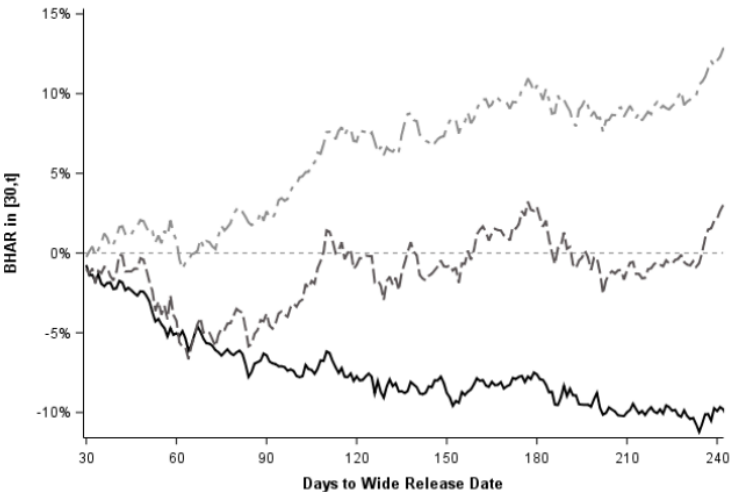
Panel A. Mean $BHAR$ in [30,60]



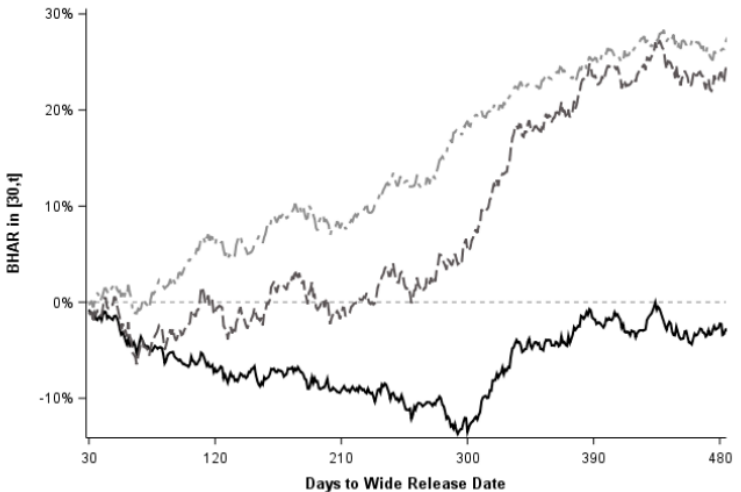
Panel B. Mean $BHAR$ in [30,120]



Panel C. Mean $BHAR$ in [30,252]



Panel D. Mean $BHAR$ in [30,500]



3.Empirical result

➢Excess Calendar-Time Portfolio Returns

$$R_{pt} - R_{ft} = \alpha_p + \beta pR_{Mt} + \beta_{p,SMB} SMB_t + \beta_{p,HML} HML_t + \beta_{p,UMD} UMD_t + \epsilon_{pt}$$

		N=5	N=4	N=3	N=2	N=1
T=3	$\alpha(\%)$	-2.52	-3.00	-3.00	-1.59	-0.88
	t-stat	[-4.83]	[-4.35]	[-4.35]	[-1.35]	[-0.79]
	obs	10	15	15	20	38
T=6	$\alpha(\%)$	-2.99	-4.11	-3.71	-1.89	-1.17
	t-stat	[-3.27]	[-4.81]	[-4.22]	[-1.86]	[-1.28]
	obs	19	27	28	41	64
T=12	$\alpha(\%)$	-2.43	-1.77	-0.79	-0.70	-1.47
	t-stat	[-3.47]	[-2.41]	[-0.97]	[-0.98]	[-1.92]
	obs	37	47	55	78	100
T=18	$\alpha(\%)$	-0.78	-0.48	-0.23	-0.91	-0.33
	t-stat	[-1.13]	[-0.74]	[-0.37]	[-1.28]	[-0.51]
	obs	54	66	76	103	131
T=24	$\alpha(\%)$	-0.29	-0.21	-0.15	0.22	0.23
	t-stat	[-0.46]	[-0.36]	[-0.26]	[0.36]	[0.42]
	obs	72	84	96	127	159

Coinciding with the above evidence based on BHAR,

this finding also suggests that the negative abnormal returns caused by the scandal re-exposing movies would last over a year after the release dates of the movies but start fading away afterward.

3.Empirical result

- **Panel Regressions of Abnormal Returns on Movie Media Coverage Using Daily Data**

	(1)	(2)	(3)	(4)	(5)	(6)
MCvge	-0.26**	-0.28**	-0.16	-0.28**	-0.31**	-0.16
	(-2.41)	(-2.57)	(-1.52)	(-2.57)	(-2.47)	(-1.14)
eDum		0.31	0.13	0.31	0.18	0.21
		(1.25)	(0.72)	(1.25)	(0.58)	(0.77)
eDumNeg		-0.64*	-0.36	-0.64*	-0.67	-0.69*
		(-2.01)	(-1.74)	(-2.01)	(-1.77)	(-1.87)
FCvge			0.88*		0.40	0.73
			(2.19)		(0.71)	(1.49)
MCvge × *FCvge*			-0.69***			-0.62***
			(-4.94)			(-4.37)
Constant	-0.07	-0.07	-0.15	-0.08***	-0.07	-0.09
	(-1.02)	(-0.69)	(-1.28)	(-3.29)	(-1.05)	(-1.03)
Observations	910	910	780	910	780	780
R-squared	0.03	0.03	0.02	0.03	0.04	0.04
Fixed Effect	No	No	No	Yes	Yes	Yes

3.Empirical result

- **Panel Regressions of Cumulative Abnormal Returns on Movie Media Coverage Using Weekly Data**

	(1)	(2)	(3)	(4)	(5)	(6)
MCvge	-0.28***	-0.28***	-0.21	-0.45***	-0.47***	-0.49**
	(-4.11)	(-3.56)	(-1.78)	(-3.35)	(-3.16)	(-2.56)
eDum		0.31	0.39		0.61	-0.33
		(0.41)	(0.50)		(0.69)	(-0.23)
eDumNeg		-0.54	-0.98		-0.88	-0.70
		(-0.60)	(-1.12)		(-0.67)	(-0.43)
FCvge			0.84*			0.58
			(1.85)			(1.36)
MCvge × *FCvge*			-0.08			0.03
			(-1.04)			(0.63)
Constant	-0.45	-0.47	-0.84	-0.24	-0.29	-0.19
	(-1.24)	(-0.92)	(-1.17)	(-1.49)	(-0.77)	(-0.44)
Observations	175	175	150	175	175	150
R-squared	0.02	0.03	0.05	0.17	0.17	0.21
Fixed Effect	No	No	No	Yes	Yes	Yes

3.Empirical result

- **Cross-Sectional Regressions of Buy-and-Hold Abnormal Returns on Movie Long-Term**

	(1)	(2)
$LogMOVIEmeter$	5.21**	5.55**
	(2.45)	(2.42)
$LogME$		-3.85
		(-1.22)
$LogBTM$		-3.90
		(-1.12)
Constant	-44.81***	-7.96
	(-2.97)	(-0.25)
Observations	30	30
R-squared	0.17	0.23

➢Analyst EPS Forecast Revisions after Movie Release

Movie	Firm	Quarterly Revisions	Annual Revisions	All Forecast Revisions
A Civil Action	Beatrice Foods Co	0	1	1
Food Inc	Walmart Inc.	1	14	15
	Smithfield Foods Inc.	5	7	12
	Tyson Food Inc.	0	7	7
	The Monsanto Co.	0	5	5
	Chipotle Mexican Grill	1	1	2
The Informant!	Archer-Daniels-Midland Co.	1	0	1
Capitalism: A Love Story	Bank of America Corp.	6	17	23
	American International Group Inc.	0	1	1
The Yes Men Fix the World	Exxon Mobil Corp.	3	13	16
	The Dow Chemical Co.	0	5	5
	Halliburton Co.	0	3	3
Inside Job	Bank of America Corp.	3	3	6
	American International Group Inc.	0	1	1
	Morgan Stanley	2	2	4
	The Goldman Sachs Group Inc.	1	2	3
Too Big to Fail	JPMorgan Chase & Co.	4	6	10
	Bank of America Corp.	5	8	13
	Morgan Stanley	7	8	15
	The Goldman Sachs Group Inc.	7	8	15
Fire in the Blood	Pfizer Inc.	0	2	2
The Wolf of Wall Street	Steven Madden Ltd.	6	12	18
The Price We Pay	Amazon.com Inc.	2	4	6
	Alphabet Inc.	2	5	7
Big Short	American International Group Inc.	6	7	13
	Citigroup Inc.	11	14	25
	The Goldman Sachs Group Inc.	10	15	25
	Deutsche Bank AG	0	11	11
Dark Waters	DuPont de Nemours Inc.	1	7	8
Total Number of Revisions		84	189	273
% of Downward Revisions		73.81%	70.37%	71.43%
Average Revision		-0.13	-0.23	-0.20
Median Revision		-0.04	-0.10	-0.06
T test		(-4.11***)	(-7.57***)	(-8.70***)
Sign Test		(-21***)	(-39.5***)	(-60.5***)
Wilcoxon Signed Rank Test		(-1101.5***)	(-10651.5***)	(-6723***)
Average Revision (in %)		-0.03	-0.02	-0.02
Median Revision (in %)		-0.04	-0.02	-0.02
T Test		(-1.63)	(-1.46)	(-2.25**)
Sign Test		(-19***)	(-33***)	(-52***)
Wilcoxon Signed Rank Test		(-653.5***)	(-3155***)	(-6723***)

3.Empirical result

➢Analyst Forecast Revision and Media Coverage

	(1)	(2)	(3)	(4)
Media Coverage	-0.0000842**	-0.0000804*	-0.000123**	-0.000123*
	(-2.02)	(-1.91)	(-2.09)	(-2.02)
Analyst Coverage		0.00630	-0.00557	-0.00557
		(0.87)	(-0.74)	(-0.70)
Earnings Surprise			0.254***	0.254***
			(6.67)	(3.84)
Constant	-0.158**	-0.274*	0.157	0.157
	(-2.19)	(-1.82)	(0.99)	(0.81)
Observations	189	189	151	151
R-squared	0.021	0.025	0.278	0.278

Key independent variable (Movie Coverage) is the movie coverage from t-20 to t+30 around the movie release date. Analyst Coverage is from I/B/E/S, which is the number of analysts following the firm at the time of the revision. Earnings surprise is controlled to make sure we tease out any information relating to actual earnings.

4.Conclusion

1. The release of these 16 movies will result in the significant and negative abnormal returns of the stocks of the 35 event firms whose scandals were re-exposed both in the short run (CAR) and in the long run (BAHR) and calendar-time portfolio returns.

2. Reactive mechanisms are as we hypothesized: In the short term, the sentiment rebrewing effect based on the new wave of negative public attention attracted by the movies as fresh negative media coverage. And in the Long term, the moral degradation effect based on investors' reevaluation of the focal firms' integrity and ethical hazards.

Appendix

➢Limitations & Future Directions

1. In sample selection, only large companies whose misconduct were once publicy well known were included in scandal-reexposing movies (35), thus findings may only pertain to such kind companies. (Larger panel)

2. The mechanisms through which the stock market react to the movie-release event, were inferred through the relationship between focal firms and consisted portfolios, and variables measuring movies' short-term media-coverage, IMDB users awareness and interest, and analysts' EPS revision. These relations were not directly equals to public sentiment as well as the reevaluation of firms integrity and ethical hazards.(more direct deduction)