

Market Reaction to Corporate Press Releases

by Andreas Neuhierl, Anna Scherbina, and Bernd Schlusche

Online Appendix

Appendix A. Representative Press Release Headlines

1. Awards

(1) Company Award

Constellation Energy (CEG) 31-03-2006 9:44:40 *Baltimore Gas and Electric Company Ranks Highest in the East Region With Business Customers According to the 2006 J.D. Power and Associates Electric Utility Business Customer Satisfaction Study*

(2) Product Award

Oracle Corp. (ORCL) 07-06-2006 8:02:20 *Oracle's Siebel Universal Customer Master Wins 'Gold Award' for Master Data Management in Bloor Research Study*

2. Customers & Partners

(1) Customer Loss

America Service Group Inc. (ASGR) 21-08-2006 18:30:25 *America Service Group to Terminate Contract with Florida Department of Corrections*

(2) Customer Win

Electro Scientific Industries, Inc. (ESIO) 25-04-2006 21:22:01 *ESI Receives Follow-on Multi-System Order from Hynix Semiconductor Inc. for Its Model 9830 Semiconductor Link Processing System; 9830 Order Furthers ESI's Momentum in the Asia Market*

(3) New Partnership

Dolby Laboratories, Inc. (DLB) 31-07-2006 8:00:51 *Dolby Announces Deal With Infitec GmbH to Provide 3-D Technology for Dolby Digital Cinema; New technology to Provide High-Quality and Flexible Digital 3-D Solution*

(4) Reaching a Milestone

Cyberonics, Inc. (CYBX) 05-01-2006 16:01:44 *Cyberonics Announces 1,100th Patient Treated With VNS Therapy(tm) for Treatment-Resistant Depression (TRD) Since FDA Approval*

3. Exchange

(1) Noncompliance

Circuit City Stores, Inc. (CCTYQ) 30-10-2008 16:05:00 *Circuit City Stores, Inc. Receives Notification from NYSE about Non-Compliance with a Continued Listing Standard*

(2) Return to Compliance

Commonwealth Biotechnologies Inc. (CBTE) 29-12-2008 15:15:00 *Commonwealth Biotechnologies, Inc. Regains Full NASDAQ Compliance*

4. Financial

(1) Dividend - Decreased

Riverview Bancorp Inc. (RVSB) 30-12-2008 16:00:15 *Riverview Bancorp Suspends Dividend*

(2) Dividend - Generic

NSC Groupe SA (NSC) 25-04-2006 9:41:49 *Norfolk Southern Declares Quarterly Dividend*

(3) Dividend - Increased

Transatlantic Holdings Inc. (TRH) 21-05-2009 17:07:00 *Transatlantic Holdings, Inc. Raises Quarterly Common Stock Dividend 5.3 Percent*

(4) **Dividend - Preferred Stock**

Freeport-McMoRan Copper & Gold Inc. (FCX) 30-12-2008 12:21:00 *Freeport-McMoRan Copper & Gold Inc. Declares Quarterly Cash Dividends on Preferred Stocks*

(5) **Dividend - Special Dividend**

National Technical Systems Inc. (NTSC) 12-05-2009 07:30:01 *National Technical Systems Declares Special Dividend*

(6) **Financial Results - Strong**

Kennametal Inc. (KMT) 26-04-2006 7:30:39 *Kennametal Reports Strong Third Quarter*

(7) **Financial Results - Weak**

Silicon Motion Technology Corp. (SIMO) 27-04-2006 17:00:43 *Silicon Motion Technology Corporation Announces First Quarter Results for the Period Ended March 31, 2006: Market Conditions Contribute to Sequential Weakness but Growth Expected to Pick Up in Q2*

(8) **Pre-Announcement - Negative**

Keynote Systems, Inc. (KEYN) 04-03-2006 7:30:02 *Keynote's Preliminary Second Quarter 2006 Revenue Below Expectations*

(9) **Pre-Announcement - Positive**

OM Group, Inc. (OMG) 25-04-2006 7:01:50 *OM Group Increases Outlook for 2006 First Quarter Earnings Per Share*

(10) **Restatement**

Richardson Electronics, Ltd. (RELL) 04-04-2006 19:00:27 *Richardson Electronics, Ltd. to Restate its Financial Statements*

(11) **Secondary Offering - Debt**

Dean Foods Company (DF) 05-10-2006 6:30:27 *Dean Foods Announces Launch of \$300 Million Senior Notes Public Offering*

(12) **Secondary Offering - Equity**

Kimco Realty Corporation (KIM) 30-03-2006 8:01:40 *Kimco Announces Offering of 10 Million Shares of Common Stock*

(13) **Share Buyback**

AO Smith Corp. (AOS) 02-20-2007 11:00:00 *A. O. Smith Announces Stock Repurchase Program*

(14) **Stock Split - Forward**

Cascade Financial Corporation (CASB) 25-04-2006 20:00:10 *Cascade Financial Corporation Declares 5-for-4 Stock Split*

(15) **Stock Split - Reverse**

Idera Pharmaceuticals, Inc. (IDRA) 22-06-2006 9:00:12 *Idera Pharmaceuticals to Effect a Reverse Stock Split*

5. **Legal**

(1) **Class Action**

H&R Block, Inc. (HRB) 30-03-2006 12:49:45 *H&R Block – HRB – “Express IRA” Customers Launch Class Action Suit – Lawyers at KGS Announce Filing*

(2) **Legal Problems**

LifePoint Hospitals, Inc. (LPNT) 17-04-2006 14:07:01 *Dissident Stockholder Files Suit against LifePoint Hospitals, Inc.*

(3) **SEC Investigation**

One Liberty Properties, Inc. (OLP) 21-06-2006 16:30:01 *One Liberty Properties Receives Notification of Formal Investigation from the SEC*

(4) **Settlement**

Freddie Mac (FRE) 18-04-2006 15:53:42 *Freddie Mac Settles With Federal Election Commission*

6. M&A

(1) Acquisition - Certain

Enstar Group Limited (ESGR) 30-03-2006 08:41:45 *The Enstar Group, Inc. Announces Completion of Acquisition of Reinsurance Company*

(2) Acquisition - Intent

SafeNet Inc. (SFNT) 31-03-2006 07:30:01 *U.K. Government Refers Potential SafeNet Inc. Acquisition of nCipher for Further Review*

(3) Acquisition - Target

Pomeroy IT Solutions Inc. (PMRY) 25-09-2009 16:40:00 *Pomeroy IT Solutions, Inc. Announces Agreement To Be Acquired by Platinum Equity for \$6.50 Per Share in Cash*

(4) IPO

CapitalSource Inc. (CSE) 06-08-2008 17:35:00 *CapitalSource Announces Filing of Registration Statement for IPO of Healthcare Net Lease Business*

(5) Merger

WebMD Health Corp. (WBMD) 18-06-2009 07:47:00 *HLTH Corporation and WebMD Health Corp. Announce Agreement to Merge*

(6) Spinoff - Certain

Level 3 Communications, Inc. (LVLT) 20-07-2006 16:19:01 *Level 3 Signs Agreement to Sell Software Spectrum Subsidiary for \$287 Million*

(7) Spinoff - Intent

International Rectifier Corporation (IRF) 12-04-2006 16:33:01 *International Rectifier Exploring Potential Sale of All Non-Focus Products Business*

7. Management

(1) Addition

Guest-Tek Interactive Entertainment Ltd. (GTK) 25-04-2006 9:03:26 *Lottery Industry Veteran Connie Laverty Joins GTECH as Senior Vice President and Chief Marketing Officer*

(2) Compensation

Duke Energy Corporation (DUK) 04-06-2006 16:05:31 *Duke Energy Releases Details of CEO Compensation Package*

(3) Promotion

Health Net Inc. (HNT) 13-04-2006 14:50:05 *Health Net of Oregon Names Brenda Bruns Chief Medical Officer*

(4) Reorganization

Sony Corporation (SNE) 12-04-2006 18:36:41 *Sony Pictures Home Entertainment Announces Reorganization*

(5) Retirement

Safeguard Scientifics, Inc. (SFE) 24-05-2006 11:37:01 *Safeguard Scientifics Announces Retirement of Directors Anthony L. Craig and Robert Ripp*

(6) Termination

Energy Partners, Ltd. (EPL) 19-04-2006 18:07:01 *EPL Announces Departure of David Looney as Chief Financial Officer*

8. Meetings and Events

(1) Company Sponsored

Arrow Electronics, Inc. (ARW) 26-04-2006 17:16:01 *Arrow Electronics Works with Technology Suppliers to Facilitate 2006 Open Architecture Seminars*

(2) Industry Event

Aspect Medical Systems, Inc. (ASPM) 25-04-2006 9:45:01 *Aspect Medical to Webcast Presentation at Deutsche Bank 31st Annual Health Care Conference on May 2, 2006*

(3) Investor Meeting

NS Group Inc. (NSS) 16-06-2006 9:26:01 *NS Group to Present at the NIRI Regional Investor Conference in Cincinnati, Ohio; Presentation June 20th*

9. Products and Services

(1) FDA Approval

General Electric Company (GE) 20-04-2006 9:00:07 *U.S. FDA Approves GE Healthcare's Next-Generation Digital Mammography System for Improved Breast Care*

(2) FDA Investigation

Pharmacyclics, Inc. (PCYC) 05-09-2006 7:30:56 *Pharmacyclics to Submit New Drug Application for Xcytrin(R) for Treatment of Lung Cancer Patients With Brain Metastases*

(3) FDA Rejection

Cephalon, Inc. (CEPH) 08-09-2006 17:02:18 *Cephalon Receives Non-Approvable Letter on SPARLON(TM)*

(4) New Product

Nokia Corporation (NOK) 25-04-2006 5:44:57 *Digitally Divine Nokia N73 - the Ultimate Challenge to the Digital Camera*

(5) Patent Award

Assurant, Inc. (AIZ) 28-06-2006 12:50:04 *Assurant Awarded Patents for Call Processing System*

(6) Pharmaceutical Approval EU

Biogen Idec Inc. (BIIB) 29-06-2006 2:30:21 *TYSABRI(R) Receives Approval in European Union for the Treatment of Relapsing Remitting Forms of Multiple Sclerosis*

(7) Product Approval

Broadridge Financial Solutions Inc. (BR) 11-10-2008 9:26:51 *Broadridge Financial Solutions Receives ISO 27001 Certification for Information Security Management Systems*

(8) Product Defect

Johnson & Johnson (JNJ) 31-03-2006 17:08:26 *Ortho-Clinical Diagnostics Issues a Voluntary Product Recall for VITROS(R) Immunodiagnostic Products Signal Reagent*

(9) Research Failure

Bristol Myers Squibb Co. (BMY) 18-05-2006 14:00:30 *Bristol-Myers Squibb Announces Discontinuation of Development of Muraglitazar, an Investigational Oral Treatment for Type 2 Diabetes*

(10) Research Success

CEL-SCI Corp. (CVM) 19-04-2006 09:35:28 *CEL-1000 Peptide Shows Adjuvant Activity with Malaria Vaccines*

(11) Updates & Upgrades

Sony Corporation (SNE) 06-01-2006 13:00:28 *Sony Strengthens BRAVIA Flat-Panel LCD Line With Full HD Models and 1080p Inputs*

10. Strategy & Performance

(1) Credit News - Negative

Affiliated Computer Services, Inc. (ACS) 20-03-2007 15:49:27 *Fitch Places Affiliated Computer Services on Rating Watch Negative on LBO Offer*

(2) **Credit News - Positive**

Autonation Inc. (AN) 03-04-2006 8:47:50 *AutoNation, Inc. Receives Lender Commitments for \$600 Million Term Loan*

(3) **Infrastructure - Downsizing**

Furniture Brands International, Inc. (FBN) 05-02-2006 16:46:01 *Thomasville Furniture Industries Announces Closing of Case Goods Manufacturing Facility*

(4) **Infrastructure - Expansion**

Verizon Communications Inc. (VZ) 25-04-2006 8:57:07 *Verizon Wireless Expands Its Network in Rensselaer County*

(5) **Profitability - Declining**

Williams-Sonoma, Inc. (WSM) 08-01-2009 06:00:03 *Williams-Sonoma, Inc. Announces a 22.6% Decrease in 2008 Holiday Revenues*

(6) **Profitability - Improving**

GlaxoSmithKline plc (GSK) 22-07-2009 08:07:00 *GSK - Improving Performance to Continue in Second Half*

Appendix B. Plots of Cumulative Abnormal Returns

The figures in this appendix plot cumulative abnormal returns by news category. Figure B1 plots individual cumulative abnormal return observations that are used to compute the averages reported in Table 3. It shows that the distribution of CARs is somewhat right-skewed. When computed with a sufficiently large number of observations, however, the distribution of sample means should approach normal. In order to provide a visual comparison of price reactions in response to different types of news, Figure B2 plots the average CARs reported in Table 3 for all news categories.

Figure B3 and Figure B4 plot select average cumulative abnormal returns, constructed in the same way as in Figure 1 of the paper, for days $t \in [-21, +21]$. In particular, Figure

B3 presents cumulative abnormal return plots for the eight most positive, significant CAR categories of Table 3; the plots are arranged in decreasing order of CARs. Figure B4 plots cumulative abnormal returns for the eight news categories with the most negative, significant price reactions reported in Table 3, arranged in increasing order of CARs. (Note that the return plots for categories with fewer observations tend to be more volatile.)

Appendix C. Plots of Volatility, Abnormal Bid-Ask Spreads, and Abnormal Turnover

The plots in this appendix demonstrate that the calculations of the changes in volatility, the bid-ask spread, and turnover around corporate press releases are robust to the choice of the event window. The top panel of Figure C1 plots average volatility levels for the ten most extreme, significant categories of Table 4. The middle panel plots the average abnormal bid-ask spreads for the ten most extreme, significant categories in Table 6, calculated in the same way as in the table. The bottom panel plots the average abnormal turnover for the five most positive and the five most negative, significant categories in Table 7, calculated in the same way as in the table. The abnormal spread and turnover values on day $t \in [-5, -1]$ are computed by subtracting the moving average realization over the period $[t - 51, t - 1]$; and the abnormal values on day $t \in [0, +5]$ are computed by subtracting the moving average realization over the period $[t - 52, t - 2]$. The figures show that volatility tends to significantly increase on the day of the press release. The bid-ask spread tends to increase just before the announcement and decrease after the announcement. Turnover frequently increases already one day before the announcement.

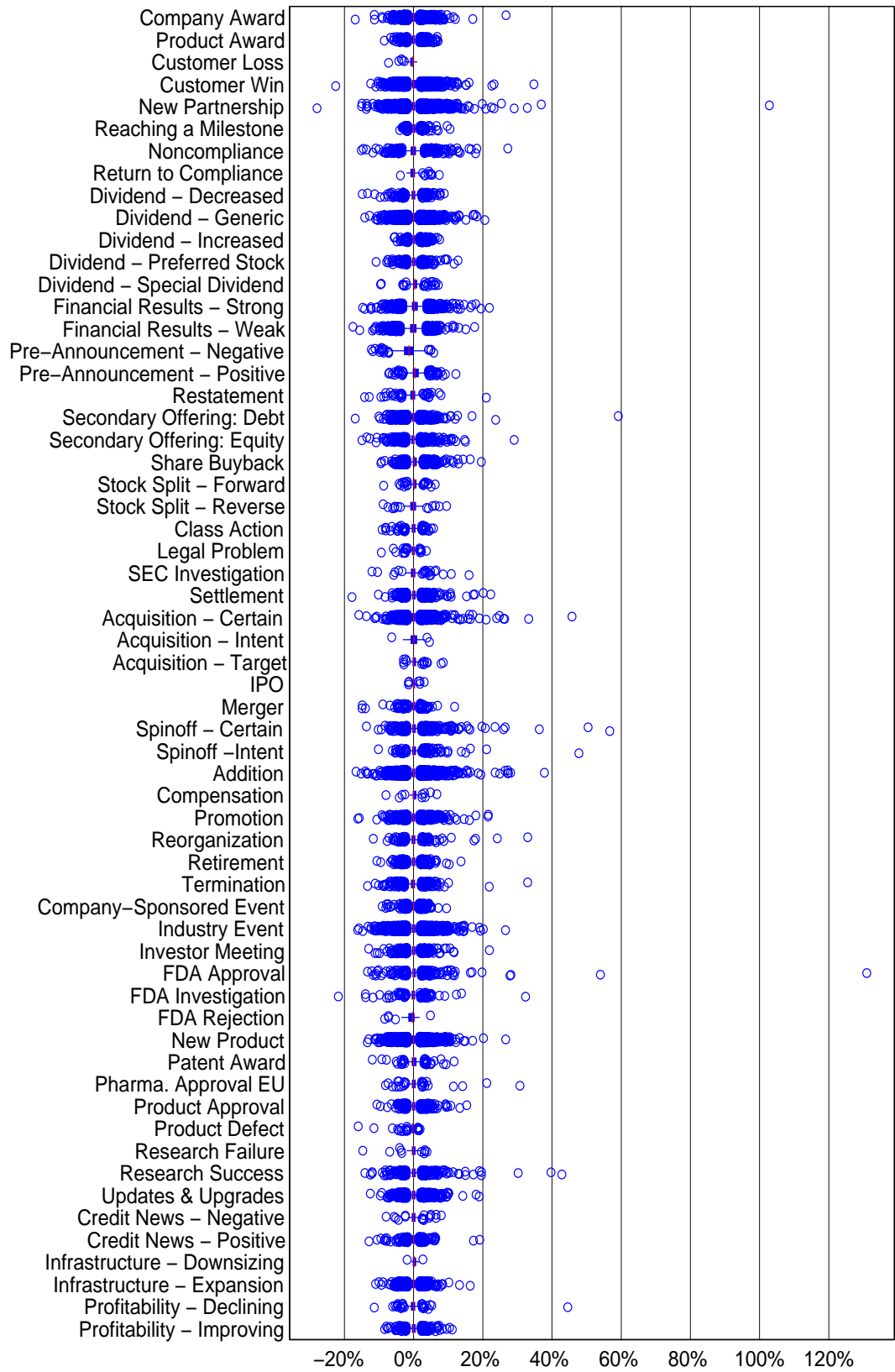


Figure B1. Individual Cumulative Abnormal Returns. Cumulative abnormal returns associated with each press release are computed using the market model and plotted as circles for each news category; short red lines indicate median observations.

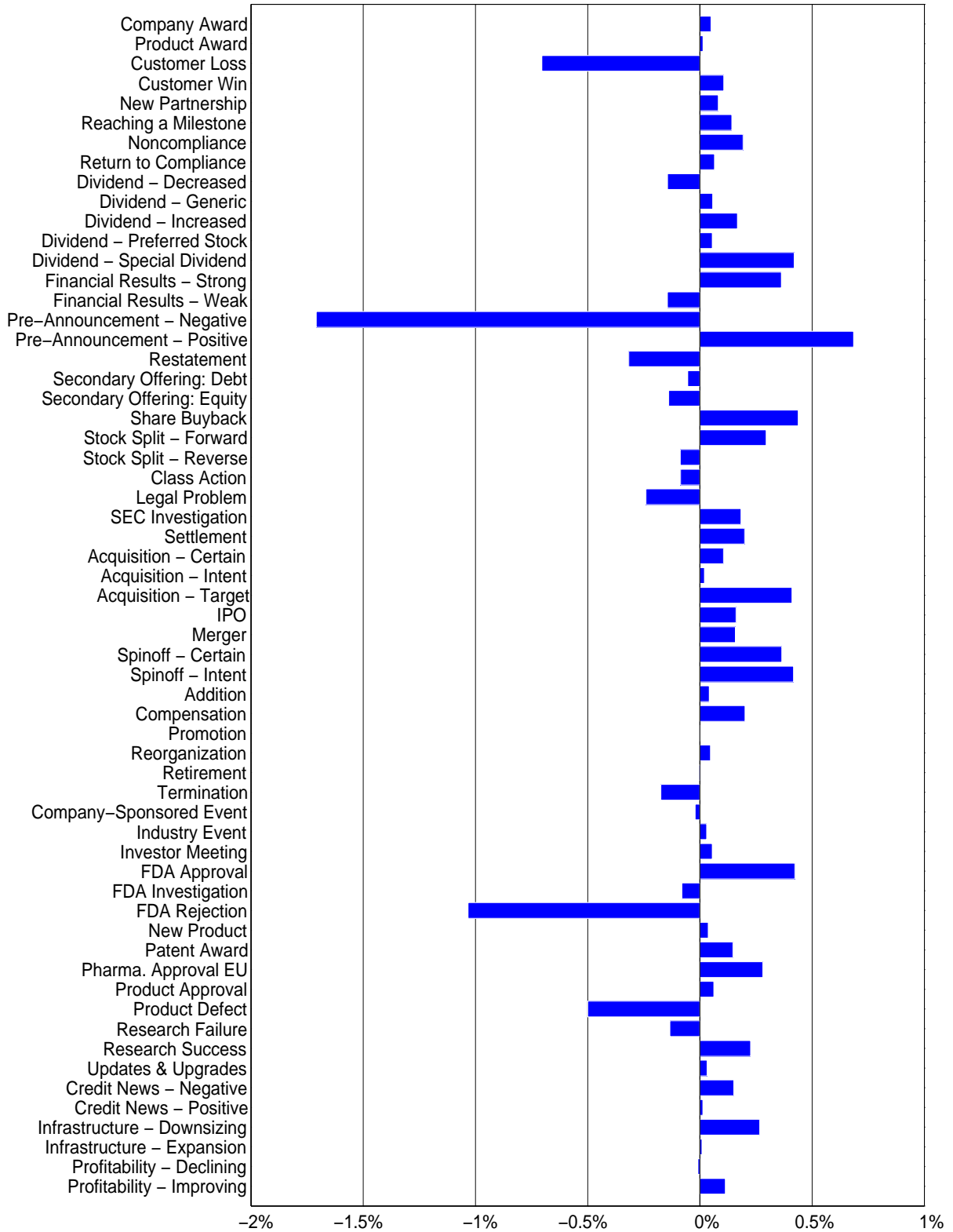


Figure B2. Mean Cumulative Abnormal Returns. The figure plots the mean cumulative abnormal return for each news category, computed using the market model, which corresponds to the numbers reported in Table 3.

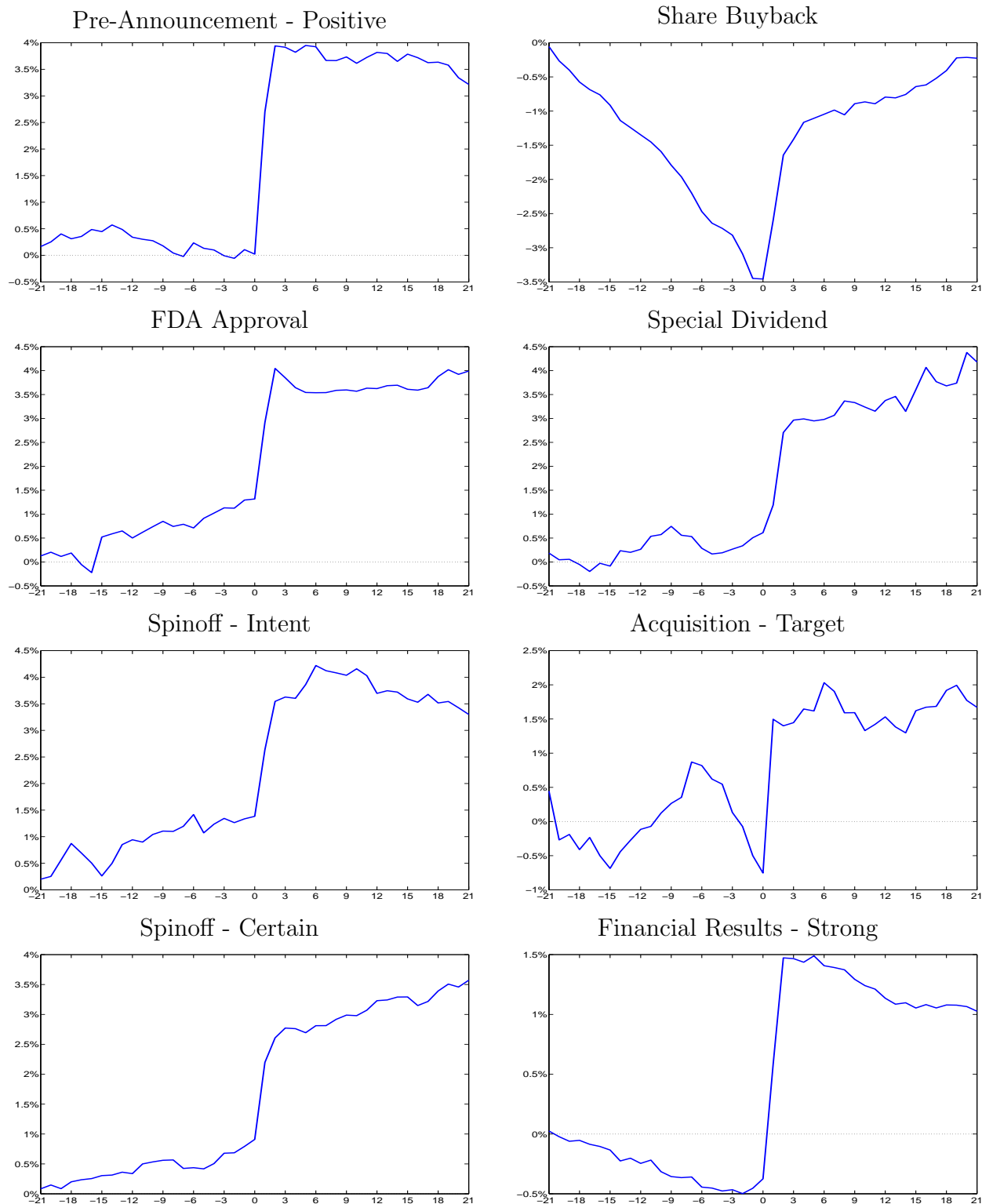


Figure B3. Plots of the Cumulative Abnormal Return for the Most Positive News Categories. For the eight news categories with the most positive, significant \overline{CAR} s reported in Table 3, the figure plots the average cumulative abnormal return, computed using the market model, over the period from 21 days before to 21 after the press release date ($t = 0$).

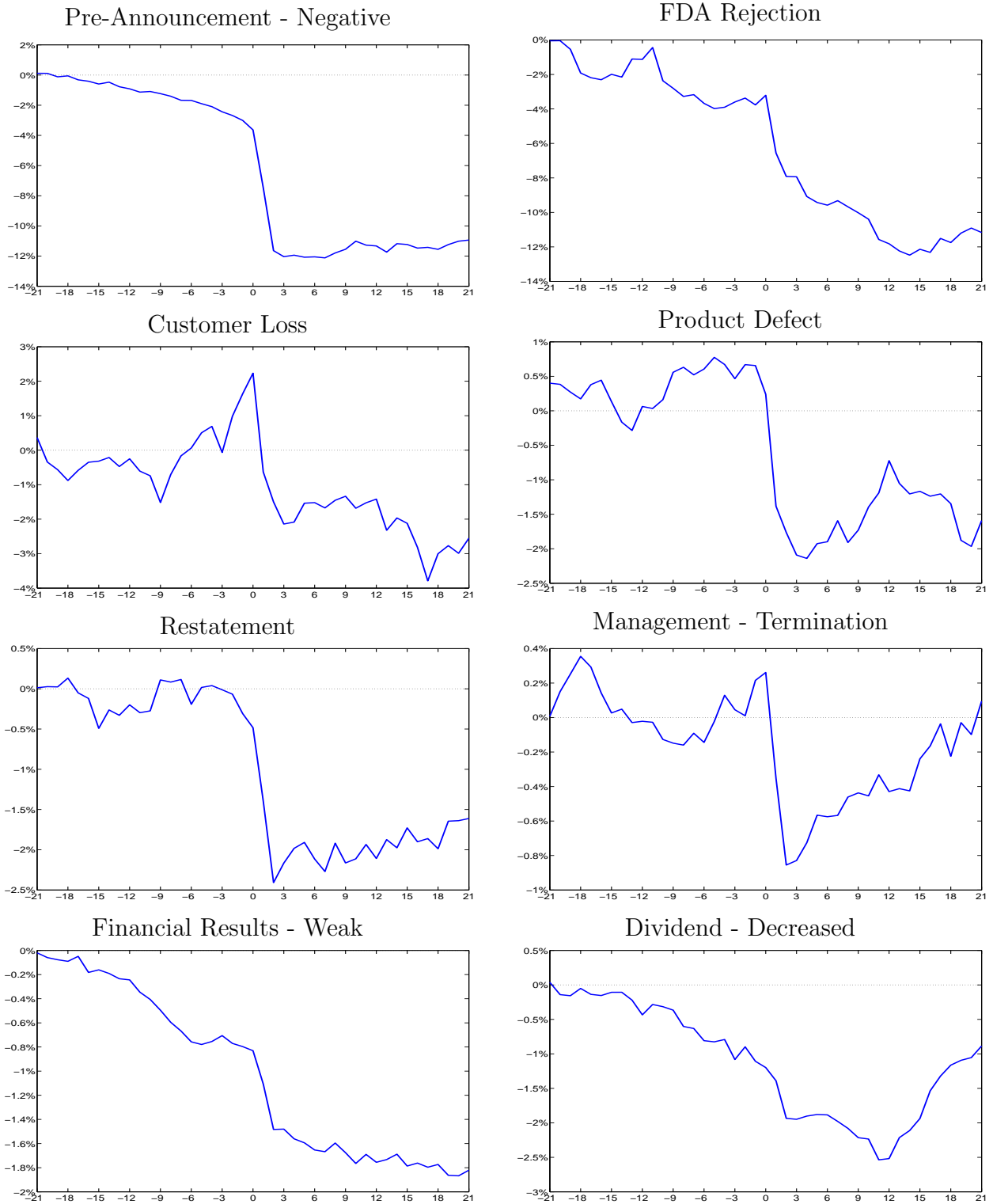


Figure B4. Plots of the Cumulative Abnormal Return for the Most Negative News Categories. For the eight news categories with the most negative, significant \overline{CAR} s reported in Table 3, the figure plots the average cumulative abnormal return, computed using the market model, over the period from 21 days before to 21 after the press release date ($t = 0$).

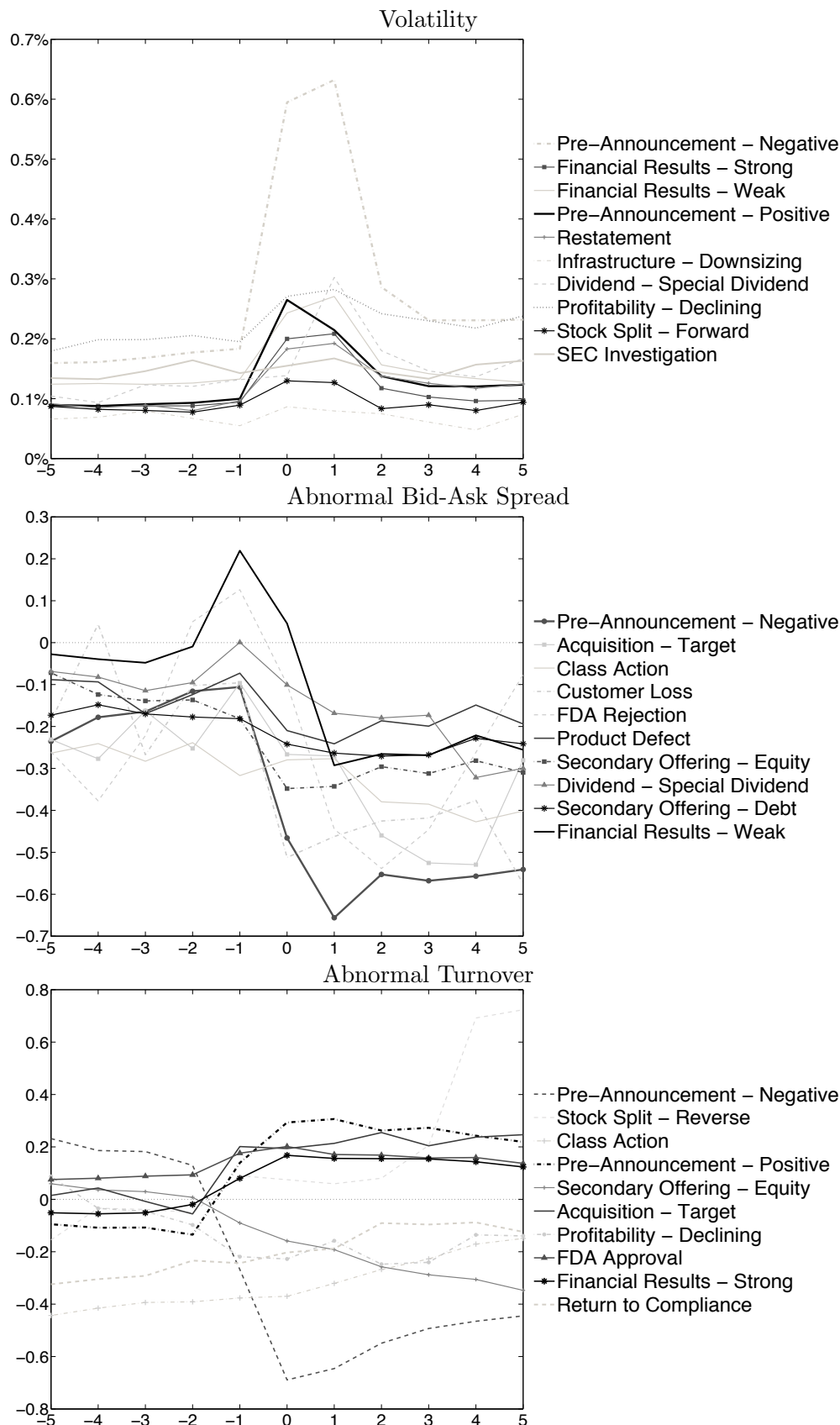


Figure C1. Volatility, Abnormal Bid-Ask Spread, and Abnormal Turnover. The values are plotted over the period from 5 days before to 5 days after the press release date ($t = 0$). The volatility and the abnormal bid-ask spread figures plot the averages for the ten press release categories with the most extreme, significant event-window changes, as indicated by Tables 4 and 6, respectively. The abnormal turnover figure plots the averages for the five most positive and the five most negative, significant press release categories, as indicated by Table 7. Abnormal bid-ask spread and turnover values on day $t \in [-5, -1]$ are calculated for each firm by subtracting the moving average over the days $[t - 50, t - 1]$, and for $t \in [0, +5]$, by subtracting the average over the days $[-51, -2]$ and otherwise computed as described in the text.