

**Taking out the Trash:
An Empirical Investigation of Strategic Timing of News Releases**

Joseph Walsh
The University of Alabama
e-mail: jtwalsh@crimson.ua.edu

Gregory P. Austin
The University of Alabama
e-mail: austi031@crimson.ua.edu

Abstract

Are political actors more likely to release bad news when it is least likely to be noticed? Former government and administration spokespersons claim they chose when to release information harmful to their cause when they were on the job (see Norris 2005); there are numerous anecdotes of negative news stories being released late on Friday (see Theimer 2009); and an episode of *The West Wing* suggests that the politicians try to release lots of bad news together on Friday, an act the fictional White House deputy chief of staff calls “taking out the trash.” Despite these popular accounts, there has been little systematic investigation of strategically timed news dumps. In this paper we look at the empirical record of Take out the Trash Day. We begin by outlining and building on the reasons that political actors would strategically release information, taking into account the mediating role that technology may play (Lee 2005). We then correlate the positivity and negativity of more than 12,500 Department of Defense news releases from October 1994 through September 2012 to their release days. We find mixed evidence for the hypothesis.

Prepared for presentation at New Directions in Text Analysis
September 27-28, 2013
London School of Economics

An earlier version was presented at the
2013 Midwest Political Science Association Annual Conference

Introduction

Are political actors more likely to release bad news when it is least likely to be noticed? Such a strategy might seem expected, or even commonplace, if an ability to control the news cycle in this way exists. The strategic timing of news releases refers to the release of information over the weekend, during holidays, at night, or on Fridays, when news consumption is assumed to be lowest (Theimer 2009; Lee 2005). The goal, of course, is to reduce public awareness of sensitive or controversial stories or events likely to garner much press attention. For example, the resignation of former White House environmental adviser Van Jones was announced overnight on the Sunday of Labor Day weekend, when few journalists were available to cover the story and many Americans not plugged in to the news (Theimer 2009); and the indictment of Scooter Libby, Vice President Dick Cheney's chief of staff, may have been delayed to a Friday to diminish its impact (Hayden, 2005, cited in Lee, 2005). An early episode of the NBC drama *The West Wing* suggests that political actors prefer to group together many unflattering stories for release on a Friday. In the episode, the White House is attempting to keep a low profile on the news that the parents of a murdered gay teen might not fully support the president's hate-crimes legislation, that a report commissioned by the White House recommends a program of "abstinence plus" for teen sex education, and that an aide to the vice president misused public funds for personal leisure when the following exchange takes place between White House Deputy Chief of Staff Josh Lyman and his aide, Donna Moss (Sorkin, 2000):

Donna: What's take out the trash day?

Josh: Friday.

Donna: I mean, *what* is it?

Josh: Any stories we have to give the press that we're not wild about, we give 'em all in a lump on Friday.

Donna: Why do you do it in a lump?

Josh: Instead of one at a time?

Donna: I'd think you'd want to spread them out.

Josh: They've got X column inches to fill, right? They're going to fill them no matter what.

Donna: Yes.

Josh: So if we give them one story, that story's X column inches.

Donna: And if we give them five stories...

Josh: They're a fifth the size.

Donna: Why do you do it on Friday?

Josh: Because no one reads the paper on Saturday.

Despite this and other popular accounts (e.g. Raezler, 2009; Sullivan, 2009), there has been little systematic investigation into the strategic timing of news releases. The non-academic literature primarily relies on anecdotes (e.g. Norris, 2005; Theimer, 2009), while the scholarly works that analyze the practice either cover financial markets (Damodaran, 1989; Chung, et al., 2003; Yermack, 2012) or, if they cover politics, assume that it is true. For example, Lee (2005), who is interested in whether dumping bad news on Fridays makes sense in today's media environment, writes that Taking out the Trash "continues as a standard method of operation" in politics (p. 2).

This paper addresses the gap in the literature by analyzing all Department of Defense (DOD) news releases from October 1994 to February 2013. Although not as expressly political as

the White House or Congress, the DOD goes to great lengths to influence opinion (Fulbright, 1970), and the White House exerts strong influence over DOD press operations, especially during war (Thrall, 2000). Over the last 19 years, the DOD public affairs office has been active, releasing more than 12,000 official statements, thousands of which are negative. The result is a rich database of news releases, covering some of the biggest (e.g. 9/11 attacks) and smallest (e.g. government contracts and employee assignments) announcements to come from an American political actor over the last two decades, a period that spans peacetime, wartime, changes in the presidency and Congress, and the rise of cable and internet news sources. By correlating the sentiment of these statements with their day of release, we learn that for the past 19 years the DOD has been more likely to release positive and negative statements during the week, when more people pay attention to the news, than during the weekend.

To Take out the Trash—or Not

There are several reasons why political actors would prefer to time their news releases. First, news audiences vary by time and day. Newsmakers can benefit by releasing negative information when it will get less attention and positive information when it will get more attention. Indeed, it is apparently so common to take advantage of low newspaper readership on Saturdays by dumping bad news on Fridays (Norris, 2005; Theimer, 2009) that Friday is sometimes called Take out the Trash Day (Sorkin, 2000). Releasing bad news on Fridays has the added advantage of often giving actors the weekend to discuss, reflect, and temper their views before taking action (Hayden, 2005). Inversely, political actors can take advantage of higher weekly readership by releasing positive news during the week (Theimer, 2009).

Second, the media has fewer resources to cover a story on weekends and holidays than on other days (Theimer, 2009). When there are fewer journalists, each story is less likely to get covered and each story that is covered gets less in-depth reporting. In addition, less capable and less motivated journalists work at these inconvenient times (Norris, 2005). The journalists who are most familiar with the beat and have proven themselves most effective have more flexibility in choosing their assignments, and they generally prefer not working on nights, holidays, and weekends, and the journalists who are working on a Friday or the day before a holiday may be tired and preoccupied with getting out the door (Walker, 2005).

Third, each negative news story may get less attention if it is released with other negative news stories (Sorkin, 2000). As already noted, the media has limited resources to cover the news, and the public has limited time and interest to consume it. If several negative news stories come out at once, the media cannot—and the public won't—give each the attention it would receive if it were released alone.

Fourth, the news consumers who are most likely to change their opinions based on a piece of news are least likely to pay attention on weekends and holidays. Weekend news consumers are more sophisticated and better informed than weekday news consumers, so their opinions change less as they obtain new information. By releasing negative news on weekends and holidays, political actors not only avoid the larger weekday news audiences but also the audiences whose opinion can be influenced most by new information. Inversely, by releasing positive news during the week, political actors can reach consumers with more flexible beliefs.

Fifth, people read newspapers differently on weekdays than on weekends (Jones, 2013). During the week, readers want to become informed. During the weekend, many want to be entertained. That is why weekend newspapers often come with magazines, larger cartoon and sports sections, long profiles, and more crossword puzzles. A 1987 Roper poll showed that American adults were 20% more likely to check the newspaper's TV schedule on the weekend than during the week (Bogart, 1989, ch. 9, fn. 18).

Despite these benefits, strategically timing news dumps cannot always work. Some news stories are visible and time sensitive, and a political actor risks allowing someone else to fill the information void if he takes too long to release information about a publicly known event. For example, the media and public wanted immediate information about the terrorist attacks they were watching on TV on September 11, 2001, a Tuesday. It is difficult to imagine the Pentagon waiting three days before releasing an official statement about the attacks. T.J. Walker of Media Training Worldwide argues “plant firings, product recalls, firings of high-placed public officials, indictments—these are big stories. The media has to cover these stories and they MUST do it in a big way. There is simply no way you prevent these stories from being released or even downplayed” (Walker, 2005, emphasis in original). Moreover, attempting to delay the story’s release can undermine the political actor’s relationship with the media (Norris, 2005)—and especially with the most effective journalists, who are not working at those times—and can draw additional scrutiny to the story because the media and public think he is trying to hide something (Walker, 2005).

There are also strategic reasons to release at least some bad news during the week. If political actors saved all bad news for the weekend and holidays, the media could respond by allocating more of its journalistic resources to those times, thereby reducing the effectiveness of the dump. The strategic political actor would randomly release some negative news during the week and some negative news during weekends and holidays.

Finally, Take out the Trash Day thinking is closely tied to newspaper readership, but newspapers are a declining source of news (Kernell and Jacobson, 2006). In a world dominated by newspapers a Friday news release would not reach the public until Saturday, but TV and the internet are increasingly popular news sources and they enable the nearly instantaneous delivery of information. Thanks to these technologies, a Friday news release now becomes public on Friday, not Saturday (Lee, 2005). In addition, newspaper readers—and especially weekend newspaper readers (Jampole, 2004)—tend to hold highly sophisticated political views that change little with new information, so delaying the release of negative news may have a smaller impact on public opinion than in the past.

Research Design

To test whether political actors time positive and negative information, we downloaded all Department of Defense (DOD) news releases from October 6, 1994, to February 15, 2013. Even though the DOD is less overtly political than the White House or Congress, it systematically attempts to manipulate public opinion on its own (e.g. Fulbright, 1971) and at the behest of the White House, especially during war (Thrall, 2000). These news releases present a good test of DOD press policy because their release is a consequence of official DOD policy (DOD, 2013). Each

news release is numbered and dated and includes a title and a body of text. The DOD distributed news release numbers 040-97 and 049-97 as two parts (“page 1” and “page 2”); we combined them into single releases. We also removed five duplicate statements. The final dataset includes 12,637 news releases.

Table 1 shows the 10 most common news-release titles. Although the DOD issues many statements, most of those statements fall into a small number of topics. Casualty announcements and general-grade officer promotions and assignments account for half of all DOD news releases.

Table 1. The 10 most common DOD news release titles

	News Release Title	Frequency	Cumulative Frequency (%)
1	DOD Identifies Army Casualty	2617	21
2	DOD Identifies Marine Casualty	783	27
3	DOD Identifies Army Casualties	719	33
4	General Officer Announcement	716	38
5	General Officer Announcements	358	41
6	General Officer Assignments	304	43
7	DOD Identifies Marine Casualties	214	45
8	Flag Officer Announcement	205	47
9	Flag Officer Assignments	204	48
10	Flag Officer Announcements	152	50

Given that the DOD issued so many casualty statements, it comes as little surprise that the DOD press office was especially active between April 2004, the siege of Fallujah, and May 2007, several months after the Iraq surge started, or that the DOD has continued to release statements post-surge at a faster pace than before 9/11. Other war-related incidents, which the DOD does not need to deal with during peacetime, also contribute to this observed increase in news releases. For example, in February 2012 US troops disposed of many copies of the Quran by burning them (Quinn and Faiez, 2012). Release number 124-12, "Statement by Secretary of Defense Leon E. Panetta on the Treatment of Religious Materials at Bagram Airbase," provides Secretary Leon Panetta's response.

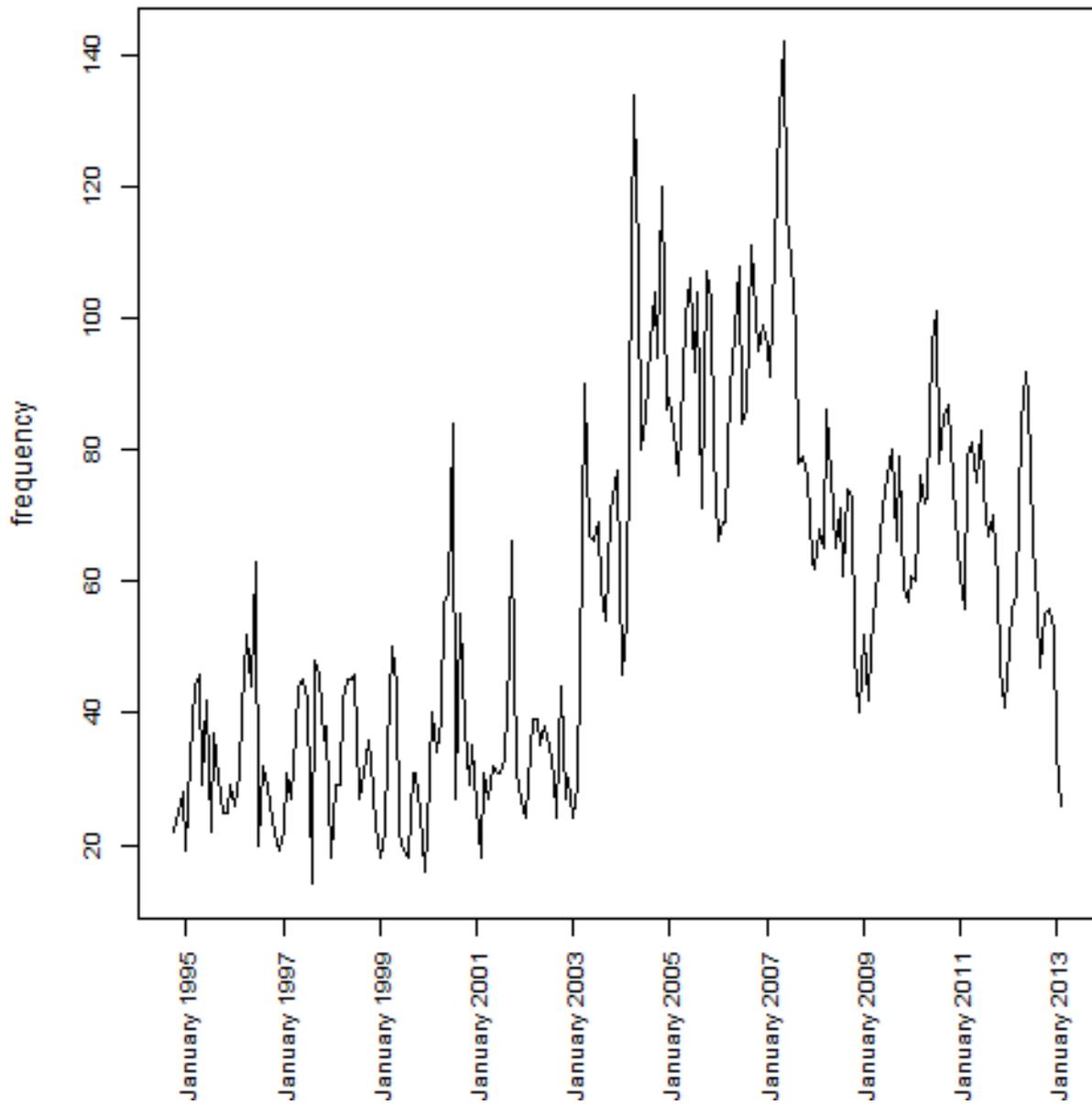


Figure 1. DOD news releases by month

Figure 2 shows DOD news releases by day of the week. Unsurprisingly, the DOD publishes most of its press releases during the week.

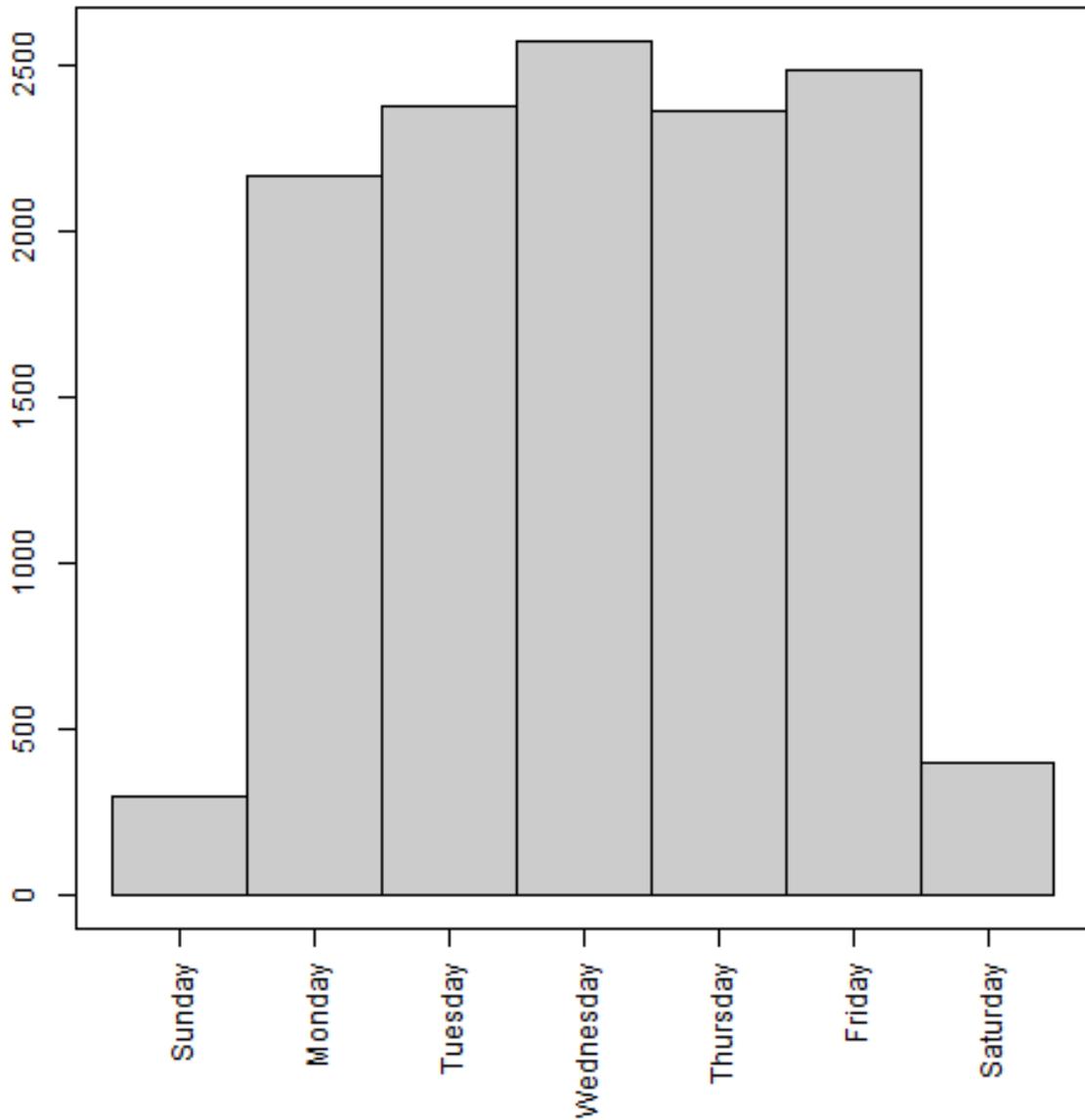


Figure 2. DOD news releases by day of the week

We created an outcome variable, *Friday*, which takes 1 if the news release came out on a Friday, Saturday, holiday or day before a holiday and 0 zero otherwise. We use the ten Federal Government holidays: New Year’s Day; Martin Luther King, Jr. Day; President’s Day; Memorial Day; Independence Day; Labor Day; Columbus Day; Veteran’s Day; Thanksgiving; and Christmas

(Hallman, 2013). The DOD released about 22% of all its statements on Friday, Saturday, holiday, or day before a holiday.

We used human coders and a classification algorithm to rate the sentiment of the news releases. We started by randomly sampling 500 news releases. We then hired five MTurkers to rate the sentiment of each release for \$0.02 per rating. One potential problem with sentiment analysis of political text is that the rater interprets the text through an ideological or partisan lens. For example, if the news release announces a cut to next year's Defense budget, one rater might say the release is positive while another says that it is negative. We attempted to address this concern by asking the raters to consider each release from the DOD's perspective. Here are the criteria we provided to the raters:

- Strongly positive (+2): "You believe that the news is strongly positive for the DOD."
- Positive (+1): "You believe that the news is positive for the DOD."
- Neutral (0): "You believe that the news is neutral for the DOD."
- Negative (-1): "You believe that the news is negative for the DOD."
- Strongly negative (-2): "You believe that the news is strongly negative for the DOD."

Table 2 shows the most positively rated release titles (average sentiment of 1.2) and random samples of the most negatively (average sentiment of -1) and neutrally (average sentiment of 0) rated titles.

Table 2. Samples of the most negative, most positive, and neutral news releases

Most Negative	Neutral	Most Positive
DOD identifies Army casualty	Roving Sands, joint air and missile defense exercise set for mid-June	DOD joins earthquake relief effort in India
DOD identifies Marine casualty	Secretary of Defense Donald Rumsfeld remarks at wreath laying ceremony at Arlington National Cemetery	DOD to transport humanitarian aid
DOD identifies Navy casualty	DOD releases military intelligence program 2010 topline budget	Defense Intelligence Agency honors Pentagon heroes
DOD identifies Air Force casualty	Navy announces Virginia class submarine contract award	Hammer Award presented to DOD disabilities program

We also created a measure of flexibility. The DOD has more options when choosing to release certain information (e.g. general-grade promotions and assignments) than other information (e.g. casualties) (Walker, 2005). Flexibility takes a 0 for the 26 news releases listed in Table 3 and a 1 for the other 348 rated news releases. This variable allows us to control for the DOD’s ability to choose when to release the news.

Table 3. News releases marked inflexible

<p>additional remains recovered from uss cole</p> <p>air force clarifies status of dhahran attack victims (final release on identity confirmation)</p> <p>dod announces status of 507th soldiers</p> <p>dod identifies army casualties</p> <p>dod identifies army casualty</p> <p>dod identifies marine casualties</p> <p>dod identifies marine casualty</p> <p>dod identifies navy casualties</p> <p>dod identifies navy casualty</p>
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dod identifies air force casualties
dod identifies air force casualty
dod identifies missing marine
dod identifies soldier killed at camp pennsylvania, Kuwait
dod joins earthquake relief effort in india
dod to transport humanitarian aid
dod to transport humanitarian aid to Haiti
emergency response at the pentagon
human remains recovered in north korea
missing in action serviceman identified
non-combatant evacuation operation for sierra leone
oh-58c helicopter down in north korea
remains of defense investigative service personnel recovered in oklahoma city
statement by secretary panetta on hostage rescue operation in Somalia
statement by secretary robert gates on tucson shooting
statement from pentagon spokesman lawrence di rita on reports that secretary rumsfeld met with hussein
vietnam war missing in action serviceman identified

The DOD may treat negative, neutral, and positive releases differently. We do not have reason to think that neutral statements are more or less likely to be released on Fridays or holidays, but negative statements are perhaps more likely (and positive statements less likely) to be released on Friday. Furthermore, the effect for negative statements may be stronger than for positive statements due to risk aversion. Therefore, we used these sentiment and influence measures to create six variables. *Negative sentiment* takes the absolute values of negative ratings and zeroes otherwise. *Negative flexibility* takes the absolute values of negative ratings if the DOD can choose when to release the information and zeroes otherwise. *Positive sentiment* takes the

values of positive ratings and zeroes otherwise. *Positive flexibility* takes the values of positive ratings if the DOD can choose when to release the information and zeroes otherwise. *Neutral sentiment* takes a 1 if the rated sentiment is zero and a zero otherwise. Finally, *neutral flexibility* takes a 1 if the rated sentiment is zero and if the DOD can choose when to release the information and a zero otherwise.

Next we used a vector space model (VSM) (Salton, et al., 1975) to assign sentiment and flexibility scores to the unrated releases. In a typical term-document implementation of VSM, such as ours, each dimension represents a different word used by the documents, each document is represented by a vector in that space (Turney and Pantel, 2010), and the angle between two vectors measures the similarity between their respective documents (Turney and Pantel, 2010; Mass, et al., 2011). For example, to compare a document with itself is to compare two equal vectors, so the angle between them is zero (maximum similarity). Adding and subtracting words from the document would change its vector, so the angle between the original and modified documents would grow (decreasing similarity). For each release, we used a VSM to identify the closest match among the MTurk-rated titles and assigned to it the rated-release sentiment and influence scores. We removed suffixes to avoid counting essentially the same words separately (e.g. 'cat' and 'cats' [Ogorek, 2013]) by using the Porter (1980) algorithm in R's Snowball package (Hornik, 2013).

Table 4 shows the results. In the left column are 25 randomly selected release titles, and in the right column are their VSM-matched release titles. Of these, 2 are clearly wrong (marked in bold) while the other 23 are close matches, although it should be noted that 1 of the 2

mismatches—*PATRIOT INTERCEPTS SCUD DURING TEST* and *servicemembers to discuss patriotism and freedom*—still assigns a sentiment score with the correct sign (+). Visual inspection of several hundred classifications suggests that these are representative classification error rates.

Table 4. 25 random news release titles (left side) and the titles they were matched with (right side).

Unrated release	Rated release
UNIFIED COMMAND PLAN	secretary of defense approves plans
PATRIOT INTERCEPTS SCUD DURING TEST	servicemembers to discuss patriotism and freedom
Department of Defense Reports on Mental Health Task Force Recommendations	department of defense reports on mental health task force recommendations
MILITARY STRENGTH FIGURES FOR FEBRUARY 28, 1999 SUMMARIZED BY THE DEPARTMENT OF DEFENSE	military strength figures for november 30, 1999 summarized by the department of defense
DoD Identifies Army Casualty	dod identifies army casualties
General Officer Assignments	General Officer Announcement
DOD Releases Defense Reviews, 2011 Budget Proposal, and 2010 War Funding Supplemental Request - Update	dod releases fiscal 2012 budget proposal
DOD Identifies Army Casualties	dod identifies army casualties
Charges Dismissed Against Five Guantanamo Detainees	charges referred against detainee al qosi
FOUR MORE CIVIL SUPPORT TEAMS CERTIFIED	three civil support teams certified
General Officer Announcement	General Officer Announcement
UNIVERSITIES SELECTED FOR RESEARCH FUNDING	universities selected for research funding
DoD Identifies Army Casualty	dod identifies army casualties
DoD Identifies Marine Casualties	dod identifies marine casualties
Air Force and Navy Join in Joint Tactical Radio Merger	dod identifies air force casualties
DoD Identifies Army Casualty	dod identifies army casualties
SECRETARY COHEN APPOINTS ARMY SECRETARY LOUIS CALDERA TO BE HIS PERSONAL REPRESENTATIVE FOR RELIEF EFFORTS IN CENTRAL AMERICA	secretary cohen appoints army secretary louis caldera to be his personal representative for relief efforts in central america
DoD Identifies Army Casualty	dod identifies army casualties
Flag Officer Assignments	flag officer announcements
GENERAL OFFICER ANNOUNCEMENTS	general officer announcement

Remarks Prepared for Delivery by U.S. Secretary of Defense William S. Cohen Council on Foreign Relations New York, New York September 14, 1998	deputy secretary white's remarks to chicago council on foreign relations
FLAG OFFICER ASSIGNMENT - REAR ADMIRAL	flag officer announcements
DoD Identifies Army Casualties	dod identifies army casualties
DoD Identifies Army Casualty	dod identifies army casualties
JOINT STRIKE FIGHTER AGREEMENT SIGNED	department of defense and turkey sign joint strike fighter agreement

Table 5 provides summary statistics for our variables, and Table 6 displays a correlation matrix. Some of the explanatory variables exhibit high correlation. The DOD has flexibility on when to release almost all neutral- and positive-sentiment news statements, so we have few cases to inform us about when the DOD releases neutral-inflexible and positive-inflexible statements.

Table 5. Summary statistics

	min	1st quartile	median	mean	3rd quartile	max
Release date	10/6/1994	7/10/2002	1/20/2006	6/21/2005	4/1/2009	2/15/2013
Friday	0	0	0	0.22	0	1
Sentiment	-1	-1	0	-0.30	0.2	1.2
Flexibility	0	0	1	0.58	1	1
Positive sentiment	0	0	0	0.10	0.2	1.2
Positive flexibility	0	0	0	0.09	0	1.2
Neutral sentiment	0	0	0	0.34	1	1
Neutral flexibility	0	0	0	0.33	1	1
Negative sentiment	0	0	0	0.40	1	1
Negative flexibility	0	0	0	0.01	0	0.8

Table 6. Correlation matrix for the explanatory variables

	neutral sentiment	neutral flexibility	negative sentiment	negative flexibility	positive sentiment	positive flexibility
neutral sentiment	1					
neutral flexibility	0.99	1				
negative sentiment	-0.6	-0.59	1			
negative flexibility	-0.09	-0.09	0.16	1		
positive sentiment	-0.41	-0.41	-0.48	-0.08	1	
positive flexibility	-0.39	-0.39	-0.46	-0.07	0.90	1

To help address these multicollinearities, we used two sets of informative priors. The first set reflects the belief that the DOD does not strategically time its releases, while the second set reflects the belief that the DOD does. We chose the priors so that 1) no effect gives a probability of a Friday release of .22, the average observed in the sample; 2) so that an effect increases the probability that a negative statement is released on Friday by 5 percentage points; and 3) so that an effect decreases the probability that a positive statement is released on Friday by 3 percentage points. Figure 1 shows the probabilities implied by these priors.

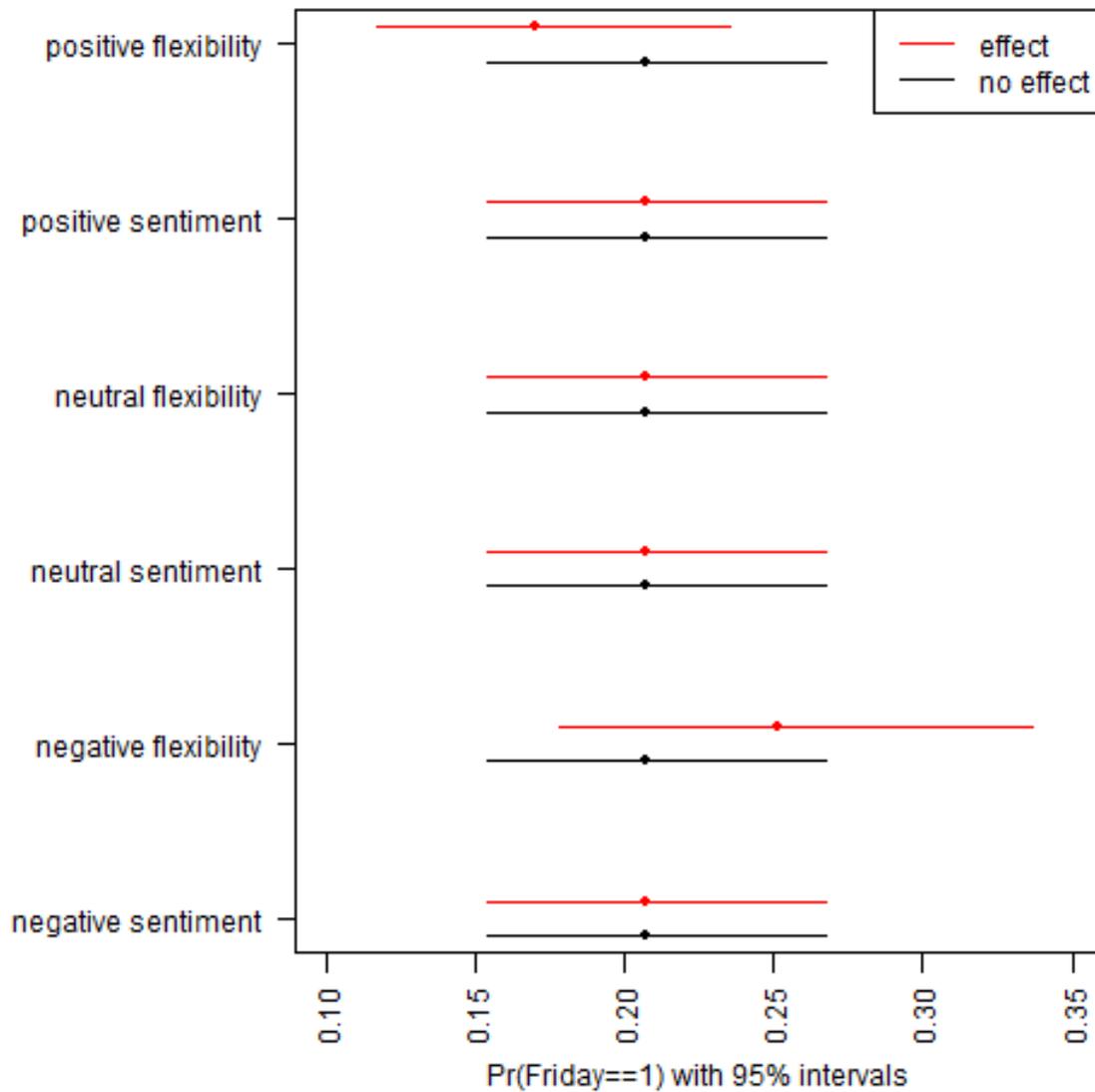


Figure 3. Probabilities implied by our choice of priors.

The observed outcome variable is dichotomous, so we used a logistic regression model.

Findings

Figure 4 shows the posterior means and 95% credible intervals. Some of the results support the Take out the Trash Day hypothesis. *Neutral sentiment* and *neutral influence* are nearly equal, as is *positive sentiment* when our prior assumes that political actors strategically time news

releases. The results also point toward political actors who save their good news for busier days. There is between a 73% (no-effect prior) and 85% (effect prior) probability that political actors are less likely to release positive statements than neutral statements on Fridays when they have the choice.

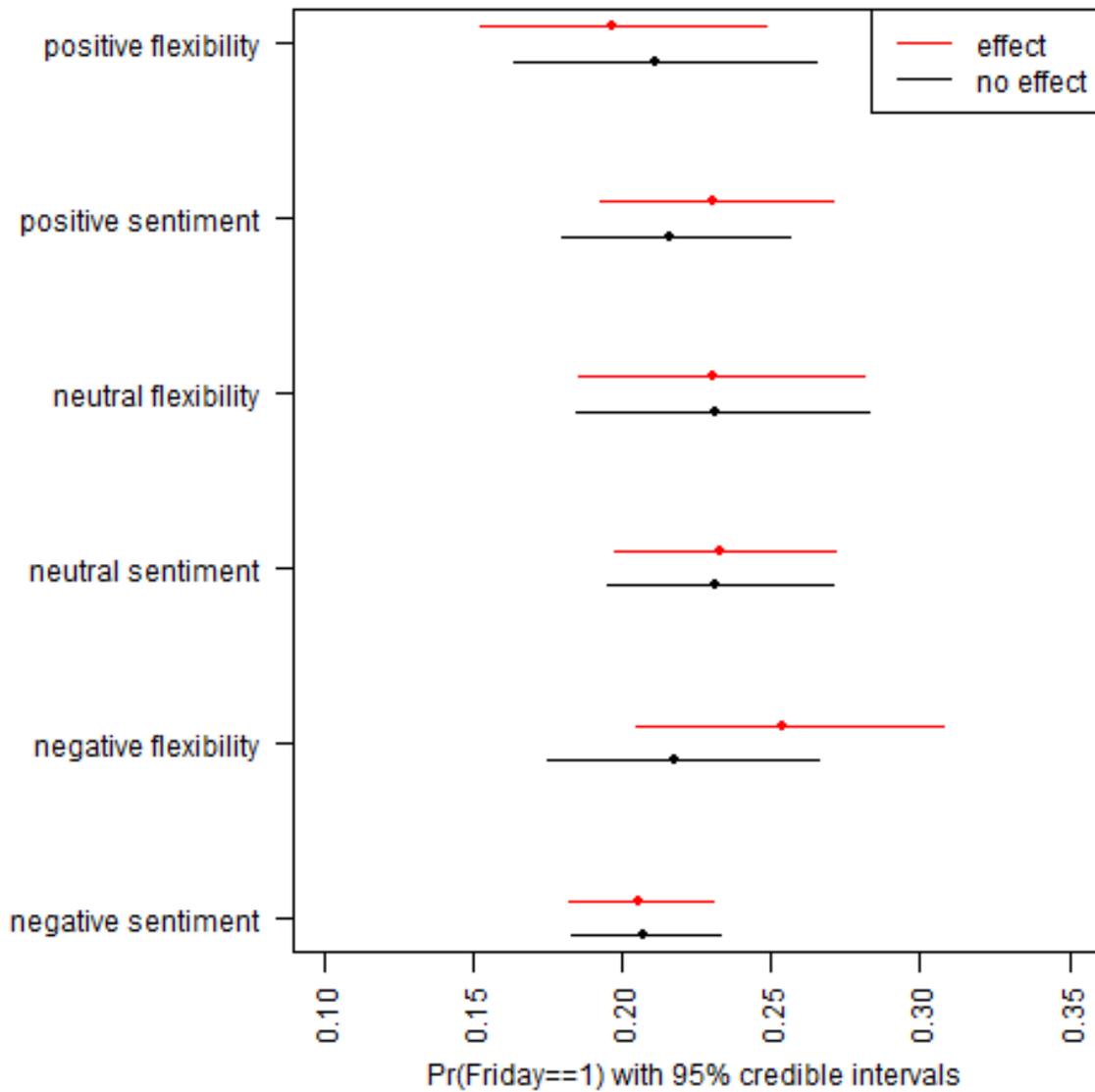


Figure 4. Posterior means and 95% credible intervals

Other results are surprising. There's a 90%-93% probability that the DOD is less likely to release negative statements than neutral statements on Friday (average estimate is around 3 percentage points), even though the DOD has little choice about when to release them. This appears to be the consequence of when fatality incidents occurred in Iraq and Afghanistan rather than choices the DOD's press office makes. All but 16 negative statements are casualty reports, and casualties were simply less likely to occur on Fridays than on other days of the week; see Figure 5 (DMDC, 2011).

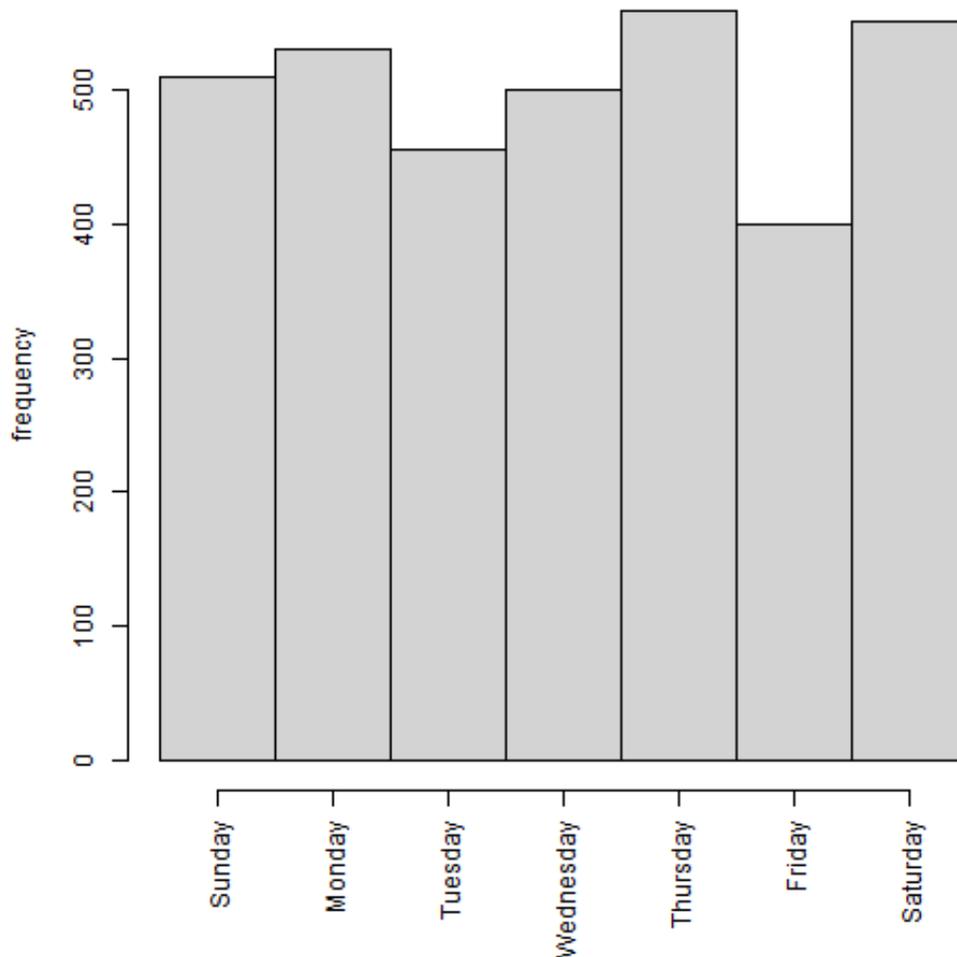


Figure 5. US military fatalities by day of the week (DMDC, 2011)

Similarly, positive releases are less likely to be released on Friday under the prior assumption of no effect, with probability of 0.74, even though we do not believe the DOD has much choice in when to release them. Finally, the data are not particularly informative about whether the DOD is more likely to release bad news on Fridays. The no-effect estimate suggests that the DOD is actually less likely to release bad news on Friday when it has the option, while the effect estimate suggests the DOD is more likely to release bad news on Friday. The information we included through the prior is driving these two results.

All six effect sizes are small—on average less than five percentage points—suggesting that it is rare for political actors to strategically time their news releases. We did not expect large effect estimates: many negative news stories cannot wait that long to be released, and good strategy requires the political actor to release at least some negative news stories during the week. However, a contributing factor to these results might be measurement error (King, et al., 1994). The VSM incorrectly categorized 5%-10% of the releases, leading to wrong sentiment and influence values for some of those cases.

Still, these results, combined with the facts that the DOD has little flexibility in choosing when to release most (96%) negative statements and the DOD has lots of flexibility in choosing when to release most (93%) positive statements, demonstrate that the DOD has kept the public better informed of emotional news stories than is typically expected. Those who argue that political actors time their releases for best effect would be surprised to learn that negative statements are more likely during the week, and those who argue that political actors do not time their releases would be surprised to learn that positive statements are also more likely during the

week. If it is true that more people pay attention to the news on weekdays, then a surprisingly large number of people have also come in contact with provocative Defense stories in the last two decades.

Conclusion

This paper presents evidence relating to Take out the Trash Day hypothesis. Using over 12,500 DOD news releases, we used sentiment analysis to estimate the probability that positive, negative, and neutral statements are released on a Friday, Saturday, holiday, or day before a holiday. We started this project expecting to find that positive releases are more likely to be released when more people are paying attention, that negative releases are more likely to be released when fewer people are paying attention, and that neutral releases are equally likely to be released when people are paying attention. The evidence strengthened some of our beliefs and weakened others. As expected, the DOD is more likely to release positive statements during the week, but contrary to expectations, the DOD is more likely to release negative statements during the week too. If it is true that the public pays more attention to the news during the week, the DOD press office has done more to inform Americans of all emotional issues, not just the positive ones, over the last two decades. The effect sizes are small, though, suggesting that strategic timing of news releases is rare.

Future work in this area should consider analyzing news releases from other political actors. The White House and Congress are more overtly political, so they may behave differently than the DOD. Other bureaucracies should also provide useful data. They are less visible than Defense and so should be less pressured to time their news releases.

References

- Chung, Kwang-Hyun, Rudolph A. Jacob, and Ya B. Tang. 2003. "Earnings management by firms announcing earnings after SEC filing." *International Advances in Economic Research*. Vol. 9, no. 2, pp. 152-162. Online at http://216-230-72-154.client.cypresscom.net/journal2/iaer/may_03/tang.pdf.
- Damodaran, Aswath. 1989. "The weekend effect in information releases: A study of earnings and dividend announcements." *The Review of Financial Studies*. Vol. 2, no. 4, pp. 607-623. Online at <http://www.jstor.org/stable/2962070>.
- DMDC (Defense Manpower Data Center). 2011. "U.S. Military hostile casualties in support of operations Iraqi Freedom and New Dawn." DRS 43457. Online at http://www.globalsecurity.org/military/library/report/2011/11-f-1218_us-oif_newdawn-casualties.xls.
- DOD (Department of Defense). 2013. "News releases." Online at <http://defense.gov/releases>.
- Fulbright, James W. 1971. *The Pentagon Propaganda Machine*. Liveright.
- Hallman, Jeff. 2013. "tis: Time indexes and time indexed series." R package version 1.23. Online at <http://CRAN.R-project.org/package=tis>.
- Hayden, K. 2005. "The signs of 'high crimes and misdemeanors' are in the air." October 27. Online at <http://www.reachm.com>.
- Hornik, Kurt. 2013. "Snowball: Snowball stemmers." R package version 0.0-9. Online at <http://CRAN.R-project.org/package=Snowball>.
- Jampole, Marc. 2005. "Long-held myths can hurt PR." *Business Source Premier*. Vol. 90, no. 2, p. 11.
- Kernell, Samuel and Gary C. Jacobson. 2006. *The Logic of American Politics*. 3rd edition. Washington, DC: CQ Press.
- King, Rachael. 2011. "Sentiment analysis gives companies insight into consumer opinion." *Business Week*. March 1. Online at <http://www.businessweek.com/stories/2011-03-01/sentiment-analysis-gives-companies-insight-into-consumer-opinionbusinessweek-business-news-stock-market-and-financial-advice>.
- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry*. Princeton: Princeton Press.

- Lee, Richard A. 2005. "Is There a Good Day for Bad News?" Manuscript. Online at <http://hallnj.org/topics/39-arts-leisure-culture-and-entertainment/638-is-there-a-good-day-for-bad-news>.
- Mass, Andrew L., Raymond E. Daly, Peter T. Pham, Dan Huang, Andrew Y. Ng, and Christopher Potts. 2011. "Learning word vectors for sentiment analysis." *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics*. Pp. 142-150. Online at <https://www.aclweb.org/anthology-new/P/P11/P11-1015.pdf>.
- Norris, Michelle. 2005. "Sifting Through the Friday News Dump." NPR. June 30. Online at <http://www.npr.org/templates/story/story.php?storyId=4725120>.
- Ogorek, Ben. 2013. "Build a search engine in 20 minutes or less." *Anything but R-bitrary* blog. Online at <http://anythingbutrbitrary.blogspot.com/2013/03/build-search-engine-in-20-minutes-or.html>.
- Pavlik, Alan M. 2005. "Are our leaders slyly anti-war?" *Just Above Sunset*. June 5. Online at <http://www.justabovesunset.com/id837.html>.
- Porter, Martin F. 1980. "An algorithm for suffix stripping." *Program*. Vol. 14, no. 3, pp. 313-316. Online at <http://www.lirmm.fr/~mroche/Recherche/Articles/Porter/porter.pdf>.
- R Core Team. 2012. "R: A language and environment for statistical computing." R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL <http://www.R-project.org/>.
- Raezler, Colleen. 2009. "Obama's Take out the Trash Day." *NewsBusters*. January 29. Online at <http://newsbusters.org/blogs/colleen-raezler/2009/01/29/obamas-take-out-trash-day>.
- Salton, Gerard, Anita Wong, and Chung-Shu Yang. 1975. "A vector-space model for automatic indexing." *Communications of the ACM*. Vol. 18, no. 11, pp. 613-620.
- Sorkin, Aaron. 2000. "Take out the Trash Day." *The West Wing*. Jan. 26.
- Spiegelhalter, D.J., A. Thomas, and N.G. Best. 1999. *WinBUGS Version 1.2 User Manual*. MRC Biostatistics Unit.
- Sturtz, Sibylle, Uwe Ligges, and Andrew Gelman. 2005. "R2WinBUGS: A Package for Running WinBUGS from R." *Journal of Statistical Software*. Vol. 12, no. 3, pp. 1-16.
- Sullivan, Amy. 2009. "Shhh: Obama repeals the abortion gag rule, very quietly." *Time*. January 23. Online at <http://www.time.com/time/nation/article/0,8599,1873794,00.html>.

- Theimer, Sharon. 2009. "Friday Is Still White House 'Trash Day'." USA Today. December 1. Online at http://usatoday30.usatoday.com/news/washington/2009-12-01-white-house-trash-day-announcements_N.htm.
- Thrall, Trevor A. 2000. *War in the Media Age*. Hampton Press.
- Turney, Peter D. and Patrick Pantel. 2010. "From frequency to meaning: Vector space models of semantics." *Journal of Artificial Intelligence Research*. Vol. 37, pp. 141-188. Online at <http://arxiv.org/pdf/1003.1141.pdf%20From%20Frequency%20to%20Meaning:%20Vector%20Space%20Models%20of%20Semantics..>
- Walker, T.J. 2005. "Good times for bad news." Online at <http://www.mediatrainingworldwide.com/tj04-27-05.html>.
- Yermack, David. 2012. "Tailspotting: How disclosure, stock prices, and volatility change when CEOs fly to their vacation homes." NBER Working Paper no. 17940. Online at <http://papers.nber.org/papers/w17940>.