Tailspotting:

How disclosure, stock prices and volatility change when CEOs fly to their vacation homes

David Yermack
Department of Finance
NYU Stern School of Business
44 West 4th Street, Suite 9-160
New York, NY 10012
(212) 998-0357
dyermack@stern.nyu.edu

National Bureau of Economic Research
1050 Massachusetts Avenue
Cambridge, MA 02138

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Abstract

This paper shows close connections between CEOs' vacation schedules and corporate news disclosures. I identify vacations by merging corporate jet flight histories with real estate records of CEOs' property owned near leisure destinations. Companies disclose favorable news just before CEOs leave for vacation and delay subsequent announcements until CEOs return, releasing news at an unusually high rate on the CEO's first day back. When CEOs are away, companies announce less news than usual and stock prices exhibit sharply lower volatility. Volatility increases immediately when CEOs return to work. CEOs spend fewer days out of the office when their ownership is high and when the weather at their vacation homes is cold or rainy.

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I. Introduction

This paper documents a close connection between the timing of corporate news disclosures and CEOs' personal vacation schedules. I find that companies tend to disclose favorable news just before CEOs leave for vacation and then hold over subsequent news announcements until they return to headquarters. During periods when CEOs are away from the office, stock prices behave quietly with sharply lower volatility than usual. Volatility increases immediately when CEOs return to work. I identify CEO vacation trips by merging publicly available flight histories of corporate jets with on-line real estate records that indicate locations where CEOs own vacation residences, often in upscale oceanfront communities in Florida or New England or close to golf or ski resorts.

An example of this pattern appears in Figure 1. On January 7, 2010, aerospace manufacturer Boeing Co. disclosed a 28% increase in annual commercial airliner deliveries and also issued an earnings forecast for the year ahead. Boeing stock rose 4%, capping three days in which it outperformed the market by almost 10%. The company's shares were quiet for the next

several weeks, not moving significantly again until January 27, when Boeing announced strong quarterly earnings and its stock rose more than 7%. In between these announcements, Boeing's CEO appears to have been on vacation, an inference based upon Federal Aviation Administration (FAA) records of company aircraft trips to and from an airport near his vacation home in Hobe Sound, FL. During this vacation period, the annualized volatility of Boeing's stock dropped to 0.16, an unusually low level for a major blue chip. During the three days before and three days after his trip, the volatility was more than twice as high at 0.40.

I find patterns similar to Figure 1 for a sample of 230 vacations lasting five work days or longer, taken by CEOs of 66 major U.S. companies during the four year period 2007-2010. To obtain aircraft flight histories, the key information needed to identify vacation dates, I use The Wall Street Journal's Jet Tracker database, a searchable Internet archive of trips by all aircraft registered to U.S. businesses during 2007-2010. While I do not know for certain that the CEOs are passengers on every flight to and from the airports near their vacation homes, executive compensation disclosures indicate substantial personal use of corporate aircraft use by nearly all the CEOs in the sample. In the case of Boeing, the company disclosed an incremental cost of $303,962 for personal use of company aircraft in 2010 by its CEO, W. James McNerney Jr. Estimates on the Jet Tracker database put the incremental cost of a typical corporate aircraft flight in the neighborhood of $5,000 to $10,000 (depending on the plane model and distance flown), implying that Boeing's CEO took a large number of personal trips on the company's executive jet in 2010.

The results of this study illuminate a facet of corporate disclosure policy rarely noticed by investors or regulators. Since the 1930s U.S. authorities have established detailed ground rules

for the timing of company disclosures by enacting rules such as Regulation FD and the Sarbanes-Oxley Act (SOX); since it became effective in 2004, SOX has required companies to disclose a wide range of material events on Form 8-K within either two or four business days. Notwithstanding these regulations, my results strongly suggest that companies coordinate public news disclosures with the personal schedules of their CEOs. In particular, companies appear to empty their queues of news announcements just before CEOs leave for vacation, and then delay subsequent disclosures until CEOs are back in the office.

The causation underlying these patterns is not obvious: companies may fix their schedules of news releases to accommodate CEOs' vacation plans, or CEOs may travel only when they expect no significant activity at the office and may cut short vacations when news arises. Data are somewhat consistent with the latter pattern, as stock volatility for the sample companies rises just before the end of the 230 longer vacation intervals in my sample, and in a number of cases CEOs appear to interrupt vacations, flying back to headquarters for just one day and then resuming their time off. However, a bivariate probit model presented below indicates that news disclosures appear to be linked to CEOs' vacations even after using weather variables to control for endogeneity of the vacation schedule.

Regardless of the direction of causation, the movement of a company's aircraft to and from a CEO's vacation residence provides a very visible signal of pending news announcements and silences. With a trivial amount of research and monitoring, investors could observe flights of corporate aircraft in real time between the headquarters airport and a CEO's vacation locale, either by monitoring live FAA data on the Internet or stationing scouts for "tailspotting" of tail numbers of planes that land at leisure airports favored by CEOs such as Nantucket, MA, or

Naples, FL. This information could support straightforward trading strategies, such as using derivatives to bet on declines in volatility when a CEO arrives at his vacation airport and increases in volatility when he departs. A similar pattern of volatility changes tied to the arrival of transport vessels is described by Koudijs (2010) in his historical account of British company shares trading on the Amsterdam exchange during the 18th century. By merging the schedules of mail boats carrying news from England with daily share price changes in Amsterdam, Koudijs shows that volatility of stocks rose markedly when ships put into port. In this study, the mechanism by which information reaches the market is somewhat different than in Koudijs's; whereas the mail boats in 18th century Europe transported market-relevant news from abroad directly to investors, a 21st century CEO's corporate jet seems to carry a gatekeeper who personally controls the release of news, and whose absence from headquarters implies an extended silence by the firm.

The remainder of this paper is organized as follows. Section II presents a literature review connecting the results of this study to several lines of research in law, finance, and accounting. Section III describes the data collection and presents descriptive statistics about the sample. Section IV contains an analysis of stock returns and changes in volatility when a CEO is out of the office at his vacation home**,** as well as an analysis of corporate news releases. Section V concludes the paper.

II. Literature review

This paper contributes to several areas of research in corporate finance, valuation, and securities regulation.

A large academic literature has investigated the strategic timing of news disclosure by corporations. These papers generally focus upon firms' attempts to influence analysts and journalists or exploit gaps in investors' attention spans. For instance, Patell and Wolfson (1982), Damodaran (1989), and many other studies find that firms release adverse news on late Friday afternoons, or in the evenings after the stock exchange has closed. Dye (2010) studies conditions under which companies will cluster or "bunch" several disclosures together in order to diminish the attention paid by investors to any one announcement. Ahern and Sosyura (2011) show that when negotiating stock-for-stock acquisitions, a bidder firm will often flood the news media with positive announcements, attempting to drive its share prices higher and obtain a more favorable exchange ratio with the target firm. Delaying or advancing news for the convenience of the CEO represents an additional aspect of disclosure policy that, while inuitively quite obvious, has not been previously noted by researchers.

Tying disclosure policy closely to the schedule of the company's CEO implies than the traits of one individual manager directly affect how a company's investors receive information. Such a pattern would be consistent with recent studies showing a connection between the personal characteristics of managers and companies' reporting of financial data. Much of this literature follows the framework of Bertrand and Schoar (2003), who introduce the concept of "management style" and assign manager-level intercepts to CEOs in panel data regressions for samples that include some managers who move from one company to another. Using this research design, Dyreng, Hanlon and Maydew (2010) find that corporate tax avoidance is linked to the characteristics of individual managers who change companies. Ge, Matsumoto, and Zhang (2011) obtain a similar result for the influence of chief financial officers upon accounting

practices. Yang (forthcoming) shows that a manager's personal track record of issuing accurate earnings forecasts influences market responsiveness to future forecasts by the same manager. Bamber, Jiang, and Wang (2010) link corporate disclosure practices to individual CEO attributes such as prior military service and education. Related research examines the importance for firm performance of CEO overconfidence (Malmendier and Tate, 2005) and high media visibility that gives some CEOs celebrity or "superstar" status (Malmendier and Tate, 2009). Studying firms' financial policies, Cronqvist, Makhija, and Yonker (2012) find a connection between CEOs' personal leverage, measured by home mortgages, and the capital structures of their companies. A pair of companion papers by Bennedsen, Pérez-Gonzalez, and Wolfenzon (2010, 2011) show that deaths in CEOs' families, deaths of CEOs, and illnesses of CEOs negatively impact companies' future operating performance.

Numerous studies in the Management field have analyzed top managers' daily activities, though it is unusual for these papers to document associations between CEO schedules and companies' financial performance. One exception is Bandiera, Guiso, Prat, and Sadun (2011), who study one week of detailed work diaries for CEOs of 94 large Italian companies, tracking such variables as the number of hours worked and the frequency of meetings with colleagues and customers. Though only limited performance measures are available for these companies, the authors find a positive association between company productivity, measured as sales per employee, and hours worked by CEOs, especially for hours spent inside the firm rather than externally in meetings with outsiders such as investors or customers. However, these relations could be endogenous, as CEOs may work longer with subordinates when they perceive greater potential for productivity increases from mentoring or monitoring, and the authors do not address

this possibility. The study of CEO illnesses (which may be less endogenous) by Bennedsen, Pérez-Gonzalez, and Wolfenzon (2011) includes detailed information about the duration (in days) of CEO hospitalizations and finds connections with subsequent company profitability. In both of these papers the outcome variables are reported at the annual level, in contrast to this study which looks at daily stock price behavior when a CEO is in or away from the office.

Finally, this paper adds to an ongoing literature on the consequences of CEOs' corporate jet usage. Rajan and Wulf (2006), citing factors such as the remoteness of the headquarters location, conclude that firms' provision of aircraft to top managers occurs when private travel is most likely to improve productivity. In accord with this convenience hypothesis, raw data for this study clearly show that dedicated corporate aircraft enable CEOs to travel quickly, sometimes at odd hours, to distant vacation spots not always served by commercial airlines. In contrast to the broader measure of total business and personal aircraft use in Rajan and Wulf (2006), Yermack (2006) focuses on CEOs' leisure travel only and documents sustained underperformance by firms that permit personal travel by CEOs on their companies' planes. These contemporaneous papers led to a 2007 expansion of the SEC's disclosure rules for managers' aircraft use and attracted additional authors to the topic. A theory paper by Marino and Zábojník (2008) and an empirical study of perks in Chinese companies by Adithipyangkul, Alon, and Zhang (2011) both support the productivity rationale for corporate jets and other workplace perks. Event studies by Grinstein, Weinbaum and Yehuda (2011) and Andrews, Linn, and Yi (2009) show negative valuation consequences when U.S. firms disclose leisure jet use by their CEOs. Edgerton (forthcoming) finds that corporate jet fleets are cut significantly in a sample of U.S. companies that undergo leveraged buyouts, indirect evidence that "executives in a

substantial minority of public firms enjoy excessive perquisite and compensation packages." The availability of precise flight data may help resolve conflicts in these papers and illuminate other issues as well. For instance, seasonal or day-of-the-week patterns of CEO vacations may help explain temporal oddities of stock market behavior such as the "January effect," which could be linked to CEOs staying away from the office in large numbers for vacations during the first part of January, a pattern that seems very apparent in this paper's sample.

III. Data description

Data for this study comes from the Jet Tracker online database made available for public search by The Wall Street Journal since May 2011 (Maremont and McGinty, 2011). The database, derived from FAA data, consists of "every private aircraft flight recorded in the FAA's air-traffic management system for the four years from 2007 through 2010," according to the newspaper. The database lists the tail number used to identify each aircraft, which the newspaper matches to individual companies using an FAA registry obtained with a Freedom of Information Act request as discussed below.

I search the Jet Tracker database for all companies included in the S&P 500 index between 2007 and 2010, using a list of companies and CEOs downloaded from ExecuComp. If a company operates its own aircraft, the database rank-orders its 2007-2010 flights by airport. Invariably the headquarters city of the company is the first airport listed. For those companies whose aircraft fly often to airports serving leisure destinations such as Martha's Vineyard or Key Largo, I search on-line real estate records available on Lexis-Nexis to determine whether the

company's CEO owns property near that airport.[1] If I locate a property, I query the database for exact details of each flight to and from the vacation airport, on the assumption that those flights transport the CEO. I then use this flight information to construct a record of the CEO's trips to and from his vacation home.

Compiling flight records for individual trips requires some subjective judgment. Many companies' aircraft follow a pattern of flying from headquarters to a vacation destination, staying only a few minutes (presumably to discharge passengers), and then immediately returning to the headquarters airport or perhaps another city. This allows the plane to avoid local hangar fees and undertake other corporate missions. Some days later, the same aircraft will travel again to the vacation city, stop briefly to pick up passengers, and then return once again to headquarters, so that CEO vacations often involve two separate round-trips by the company plane. Sometimes the CEO appears to fly from his vacation airport to cities other than headquarters, often for an up-and-back trip in one day. Many of these side trips are to obvious leisure destinations, such as Napa, Ca., or Augusta., Ga., which many CEOs visit for day trips of six hours or less, enough time for a tour of vineyards or a round of golf. If the CEO travels from his vacation home to another leisure destination, I count it as a continuation of the vacation trip, but if the trip appears to be to an urban or commercial destination, I treat it as the end of the vacation. If the corporate aircraft travels to the CEO's vacation airport but no return flight ever appears in the database, I

[1] Searchable real estate databases include records of housing sales, property taxes, and mortgages and list the owner and exact address of properties across the United States. These data have been used by several recent papers such as Liu and Yermack (2007) and Cronqvist, Makhija, and Yonker (2012) to identify the main residences of corporate managers. To search these databases accurately, one must sometimes consult biographical sources to obtain information such as the CEO's middle initial or spouse's name. CEOs with common last names such as Smith or Johnson can be problematic, and in several such cases I excluded companies from the sample when I could not link an individual CEO to specific real estate records with high confidence.

do not include the trip in my sample; in these cases the CEO probably leaves by commercial air service or surface transport at a time I cannot identify. To classify a departure day from headquarters as either a work day or vacation day, I use a cutoff of 4:00 p.m. takeoff, so if the CEO's plane leaves the headquarters city later than 4:00, I count the vacation as having begun the next working day. For return days, if the flight lands in the headquarters city or another non-leisure destination at 12:00 noon or earlier, I count that as a work day.

These methods will obviously yield only an incomplete record of a CEO's vacations, since I will record trips to locations where he owns homes but not to other destinations where he may vacation without owning property. A few companies' planes travel regularly to Bermuda and Mexico resort towns and to Europe, but I do not have access to foreign real estate records to verify whether the CEO owns property in these locations. On occasion the CEO may travel on commercial airlines or use time-sharing private jet services from an outside company such as NetJets, and I will miss these trips as well. Even when the CEO travels to his vacation home, he may spend time working on company business while there, so my measure of vacation travel may be overinclusive.[2] I also cannot verify that the CEO is a passenger on every flight made on company planes to the airport near his vacation home; some of these trips may transport the CEO's family members or junior executives from the company, for instance.

My sampling procedure yields vacation schedules for 67 CEOs from 66 companies. I tabulate a binary vacation variable for each CEO each day, with the U.S. stock market calendar

[2] An interesting recent case involves Houston company Nabors Industries Ltd. and its CEO Eugene Isenberg, who owns homes in Palm Beach and Martha's Vineyard, locations frequently visited by the company's aircraft. The CEO's employment contract entitles him to establish offices at any of his personal residences and to perform his work duties from those locations. In November 2011 the SEC opened an investigation because the company had disclosed zero expense for the CEO's personal use of company aircraft, apparently under a rationale that the CEOs' trips to these locations were always for business purposes. McGinty and Maremont (2011).

used to distinguish working days from weekends and holidays. For CEOs who hold their jobs continuously for the entire 2007-2010 period, the sample includes 1,008 days of data, an average of 252 stock market days per year. For CEOs who were appointed or resigned during this period, I tabulate daily vacation data only during their time in office. Table 1 presents basic overview statistics about the sample. In all, the database contains 52,434 company-days, of which 3,688, or 7%, are spent by CEOs at their vacation homes, an average of about 18 work days per year. The data exhibit considerable variation across companies, with one CEO recording only three work days at his vacation home during the four-year, 1,008-day sample period, and another spending 197 days at his retreats during the same period.

Table 1 presents additional descriptive detail about CEOs' vacation trips. Generally these days out of the office follow predictable patterns, with Fridays and Mondays represented more than midweek days and a high concentration of vacations during July, August, and the winter holiday season. The frequency of CEO vacations was higher in 2010 than 2007-09, perhaps because improved conditions in the national economy permitted more time for relaxing away from the office. In all, I identify a total of 1,196 distinct CEO vacation trips, uninterrupted by days back at headquarters, with lengths varying between one and 28 continuous work days. More than half of all CEO trips are just one or two days in length, but approximately 51% of all vacation days occur in trips at least one week (five working days) long, and I will focus much of the analysis below on this subsample. Absences longer than two weeks – 11 or more working days – comprise 3% of all trips and 15% of all vacation days.

Table 2 presents a panel probit model of CEOs' decisions about when to spend days at their vacation homes. The binary dependent variable equals one if the CEO is at the vacation

home on a weekday that the stock market is open. Explanatory variables include personal characteristics of each CEO, including age, percent ownership, and the log of total compensation (the TDC1 quantity reported by ExecuComp); net-of-market stock performance over the prior six months; variables about the weather at the vacation site; and indicator variables for each calendar month.[3] I also include indicator variables for work days immediately preceding and immediately following public holidays. Each CEO is allocated a unique intercept term and standard errors are robust to serial correlation and heteroskedasticity. About 4 percent of the company-day observations drop out of regressions due to missing values for days that weather stations are off-line and do not report any data; the separate estimates tabulated in the first and second columns reflect the impact of this reduction in the sample.

Estimates in Table 2 reveal a number of interesting patterns. Older CEOs appear to take more vacation days than younger ones, though the effect is statistically significant only with the full range of control variables in the model. CEO ownership enters the model negatively with a strong level of significance, suggesting an incentive effect of CEOs spending less time away from the office when they have more personal wealth tied to performance. The weather at the CEO's vacation home appears to be extremely important. Estimates in the third column show that CEOs are less likely to spend a day out of the office when it is raining or when the weather is cold. A squared term on the temperature variable has a negative estimate, indicating that the

[3] Daily weather data is available from the Internet portal of National Climatic Data Center of the U.S. National Oceanic and Atmospheric Administration (NOAA). I download the high temperature and depth of precipitation at the weather station closest to the CEO's vacation home for each day in the sample (most of these weather stations are at the commuter airports used by their aircraft). A small number of CEOs maintain pairs of leisure homes and visit them seasonally – for instance, Palm Beach in the winter and Martha's Vineyard in the summer. In these cases I use weather data for the winter location between October 1 and March 31, and the summer destination from April 1 through September 30 of each year.

tendency to take more vacation days tapers off and then reverses at high levels of heat; the estimates on the linear and squared temperature terms indicate that CEOs are most likely to visit their vacation homes when the high daily temperature is about 78° F. CEOs are significantly more likely to take vacation days in proximity to public holidays when the stock market is closed. One variable that does not seem to matter is recent company performance: the company's net-of-market stock returns over the prior six months do not have a significant coefficient estimate. This conclusion does not change if the window for measuring performance is changed or if the variable is decomposed into separate company and market returns.

IV. Analysis

In the subsections below I analyze the impact of CEO vacations upon the daily performance of a company's stock. Section IV.A investigates abnormal stock price behavior when the CEO is out of the office. Section IV.B studies changes in stock volatility. Section IV.C presents data about patterns of corporate news releases with respect to the CEO's travel to his vacation home, as well as a joint model of the vacation and news release schedules in a bivariate probit framework. Section IV.D discusses implications of the results.

A. Abnormal stock returns

I investigate whether stock prices exhibit abnormal behavior around the days that the CEO is out of the office at his vacation home. Table 3 presents an analysis of abnormal stock returns in a standard four-factor Fama-French model, with indicator variables added to identify the days around CEO vacation trips. Standard errors are clustered at the company level. In

column two, the estimate for an indicator for all CEO vacation days shows that stock returns are generally not different than normal on days that the CEO visits his vacation home.

To increase the power of my statistical tests, I focus on long CEO vacations, which I define as those lasting five or more consecutive work days. If a CEO flies back to headquarters for one day and then returns to his vacation home, I count the one day as an "interruption" of a vacation, with the additional spell of days treated as a continuation of the first trip. In all I identify 230 distinct long vacations by CEOs of the 66 companies in the sample, which include 1,912 total work days away from the office, plus 35 interruption days, along with an uncounted number of weekend and holiday days. I do not count trips lasting four work days plus a weekday that is a stock market holiday, and I count interrupted trips only when there is a continuous stay of at least five days on either or both sides of the interruption. In the third column of Table 3, the vacation indicator is decomposed into pieces representing days of short and long vacations, defined as those five or more working days in length. Again, the estimates for these variables seem uninteresting.

The most significant abnormal return estimates appear in columns four and five of Table 3, when the model includes indicators for the three-day periods immediately before and after the CEO leaves for a long vacation of five or more days. As shown in the table, abnormal stock returns are about 16 basis points higher than ususal for each of the three days just before the CEO leaves for vacation, and about 17 basis points higher than usual for each of the three days after he returns. Given the three-day length of these periods, the estimates correspond to appreciations in the company's stock of about 0.48% and 0.49%, respectively, and both estimates are statistically significant at the 5% level.

These estimates suggest that companies announce good news just before the CEO leaves for a long trip, then announce very little while he is gone, and finally announce more good news on his return. This pattern is reinforced by the analyses of news releases and stock price volatility that appear below. Bad news announcements do not seem to occur in proximity to the CEO's longer vacations. Since many CEOs begin or end vacations in the first month of the year, these data may have a plausible connection to the well-known "January effect" of stocks performing unusually well in the first weeks of a new year.

These findings are broadly consistent with recent papers by Tsiakas (2006, 2010), who studies abnormal stock returns around market holidays, which occur nine times each year during my sample period. Tsiakas finds positive expected returns both before and after mid-week holidays. For market holidays on Mondays or Fridays that represent part of a three-day weekend, abnormal returns are positive in advance of the long weekend, as found in my sample, but negative on the first day back to work. Inspection of my data shows that close to half of the lengthy CEO vacations are coordinated with holidays. Of the 230 individual trips in the sample, 31 begin at the start of a three-day holiday weekend or immediately prior to a mid-week holiday, and 35 trips end just after a holiday weekend or mid-week holiday. Many other trips include stock market holidays in the middle, so that a total of 111 out of 230 vacations coincide in some way with the holiday calendar.

B. Volatility

Table 4 presents data about stock volatility when CEOs are at work, and when they are out of the office at their vacation homes. I calculate grand average volatilities for the 66

companies in the sample, taking the standard deviation of continuously compounded stock returns over the entire sample and multiplying the result by the square root of 252, which equals the number of stock market trading days in a typical year. At the top of Table 4, the data indicate significant drops in stock volatility when the CEO is at his vacation home: on these days, realized volatility is 0.401, compared to 0.448 on all other days. In other words, volatility falls by about 10.5% when the CEO is out of the office.

The difference becomes even more dramatic when the CEO leaves for a long vacation instead of a short one. Realized volatility during long CEO vacations, 0.378, is about 15.6% below work-day volatility. During short CEO vacations of less than five days volatility also drops slightly below normal, to 0.426. The volatility drop for long vacations is more substantial when the vacation period includes a public holiday. *F*-tests indicate that the estimated volatilities for long vacations and for all vacation days are significantly less than estimated volatilities on work days, at extremely low significance levels. Changes in stock volatility around CEO vacations are economically large, similar to results in other studies that have examined important corporate events. Patell and Wolfson (1979, 1981) and a number of successor papers show significant increases in stock volatility on dates of earnings announcements, followed by immediate decreases the next day. While these studies concern changes in volatility around short news announcement windows, other papers have found sustained volatility changes after important events. For example, Ohlson and Penman (1985) find that volatility rises by approximately 30% following stock splits. Clayton, Hartzell and Rosenberg (2005) find that volatility increases by approximately 23% in the year following forced turnover of a CEO. That paper cites about 15 other studies than have found significant volatility changes after corporate

events such as tender offers and dividend announcements.

Further detail in Table 4 show volatilities during periods around the start and end of long CEO vacations. The data show that volatility gradually trends down in the three days before the CEO leaves, dropping more on his first day of vacation, before bottoming out during the middle days of the trip. On the final day of a long vacation, volatility is higher than before, and it rises further during the CEO's first three days back in the office.

The research strategy in all of the earlier papers documenting changes in volatility is different than that used here. Other studies exploit a discrete time series break in daily data and calculate volatility estimates over relatively long estimation windows before and after an event that occurs only once for each sample firm. In contrast, this study pools together all daily data for each company and separates it into two subsamples using a binary indicator that may switch back and forth frequently after relatively short periods time; some CEOs, for example, shuttle often between headquarters and their vacation homes especially during July and August. Ignoring the length of each vacation, I calculate realized volatility for the entire set of observations in each subsample, regardless of whether their separation in time. This strategy leads to a number of potential biases that are discussed and evaluated below.

The strong volatility patterns associated with CEO vacation trips might be somewhat endogenous, if CEOs cut short vacations when the activity level at headquarters increases or are more likely to leave for their vacation homes when the office is quiet. In general, CEOs' trips do not exhibit strong associations with certain days of the week or holidays that might be affected by market-wide changes in volatility. For instance, CEOs are most likely to be out of the office on Mondays and Fridays, according to data in Table 1. However, these two days have the highest,

rather than lowest, market-wide volatility, an effect generally attributed drops in liquidity that occur when traders leave for three-day weekends, taking either Friday or Monday off. See Kiymaz and Berument (2003). Tsiakas (2006) studies volatility around market holidays and finds an ambiguous pattern, with lower market volatility prior to mid-week holidays, higher volatility after long weekend holidays, and no significant effects in other cases.

My method of calculating a grand average volatility for all companies pooled together may be biased if CEOs from quieter companies with lower volatilities are away from the office more often than their counterparts from higher volatility companies, since CEOs in the first group would account for more observations in the sample. To control for this possibility, Table 5 shows the comparison between volatilities when the CEO is in the office and when he is away on a long vacation, with the comparison statistics calculated separately for each of 49 companies (for the other companies in the sample, the CEO never is away for five or more consecutive days). As shown in Table 5, volatility is lower for the large majority of the 66 companies when the CEO is away on a long vacation. The overall decline, calculated as an equal-weighted average across the 27 companies, is 15.2%, significant below the 1% level, nearly the same as calculated from the data in Table 4 with all observations pooled together.

Data in Table 5 suggest an alternative interpretation of the paper's results. More news may be announced by firms when the CEO is at headquarters simply because he is directly involved in creating significant news events, by signing major contracts, meeting with regulators, deciding upon new strategies and the like. If this is the case, we would expect those firms whose CEOs take relatively little vacation time to respond most dramatically when the CEO is away. This is generally consistent with a pattern in the table that shows the largest volatility

differentials occur for those firms whose CEOs take the fewest days off for long vacations during the 2007-10 sample period. In contrast, for companies whose CEOs take large amounts of vacation time, volatility seems to change little when they are away, probably because they have developed a management style relying heavily upon delegation to subordinates.

C. News announcements

The patterns of stock price volatility described above are consistent with companies releasing news to the market just before the CEO leaves for a long vacation and delaying further news releases until the CEO returns to the office. I test this possibility directly using daily news announcement data from the Thomson Reuters Significant Developments database, which the vendor describes as "a unique news analysis and filtering service providing a concise description of crucial, market-moving company news." This source consolidates major news affecting public companies from hundreds of worldwide sources and tabulates the date and time that information first becomes public. The database covers topics such as dividend announcements, mergers, earnings guidance, new product announcements, major contracts, regulatory decisions, and the like. I tabulate a binary variable that takes the value of one if the company makes a significant news announcement or an earnings announcement on each day in the sample. For announcements that occur after the 4:00 p.m. close of the stock market or over a weekend, I align them in the database with the next working day.

Data in the third column of Table 4 show a pattern of news releases very close to that implied by the volatilities shown in the second column. On days that CEOs are in the office, companies announce earnings or significant news 14.1% of the time, a frequency that drops by

about one-third to 9.8% when CEOs are away from the office. The effect is greater for longer vacations, when the daily news announcement frequency drops to 8.6%, compared to shorter vacations, when it is 11.1%. Differences in all of these numbers are statistically significant according to *t*-tests. The daily news announcement frequency tapers downward from 11.3% on the day before a CEO leaves for a long vacation, to 8.2% on the first vacation day, then 8.6% on subsequent days in the middle of the vacation, and finally 8.5% on the last vacation day. It then shoots up to 15.7% on a CEO's first day back in the office. Longer vacations that include public holidays have daily news frequencies of 8.1%, below the frequency of 9.9% during longer vacations that do not include public holidays.

While the data clearly indicate fewer company news announcements when CEOs leave the office for vacation, the existence of a direct causal relationship at first seems ambiguous. CEOs may deliberately schedule vacations when they expect business to be quiet, as suggested by the data above indicating that nearly half of CEOs' long vacations occur either adjacent to or overlapping a public holiday.

To investigate whether CEO vacations have a causal effect upon companies' news releases, one must estimate a joint model of CEO vacations and company news releases that treats the vacation variable as endogenous. The regression estimates in Table 2 offer appealing instrumental variables to identify such a model. The weather (temperature and rainfall) at a CEO's vacation home has a strongly significant impact on his daily vacation decisions, and it seems completely implausible that the weather at a distant leisure location would have any connecting to news developments at company headquarters. Because the two dependent variables of interest, company news releases and CEO vacation days, are binary (0, 1) variables, I

cannot rely on the standard simultaneous equations technique of two-stage least squares, and I instead use the bivariate probit model. Greene (1998) introduces the bivariate probit as the most efficient estimator for a system of equations with binary dependent variables, in which one or both of the binary outcome variables also enters the equation of the counterpart variable(s) on the right-hand side.[4]

Table 6 presents the bivariate probit estimates for the two-equation model of CEO vacations and company news releases. For comparison purposes, univariate probit estimates of the same model appear on the left half of the table. The news variable follows the definition in Table 4 and equals one for those days on which the company makes a quarterly earnings announcement or a significant news announcement, according to the Thomson Reuters Significant Developments database. Maximum likelihood estimation of the two-equation model proved difficult, and to achieve convergence I had to drop from the vacation model several of the variables from Table 2, including the indicators for individual CEOs, as well as the continuous variables for the log of CEO compensation and the CEO's age. As shown in either half of Table 6, estimates for the remaining variables in the CEO vacation model remain substantially similar to those in Table 2 even after these exclusions, except for the variable for CEO ownership. The model for news announcements includes, in addition to the endogenous CEO vacation variable, indicator variables for days of the week, indicators for individual months, and indicators for days

[4] Greene shows that the bivariate probit approach has a simple, appealing and counterintuitive property, because it does not require the use of a fitted value of one variable in the model for the other as would be done in two-stage least squares. In the bivariate probit, the investigator can simply put either dependent variable on the right-hand side of the other equation, and the likelihood function for the joint model is structured in a way that accounts for the variable's underlying endogeneity. See Greene (1998, pp. 294-295). A recent application in the finance literature is Naveen's (2006) bivariate probit model of CEO turnover in the presence of a endogenously designated "heir apparent" presumptive successor.

immediately before or immediately after public holidays.

Estimates in Table 6 show that, even after accounting for the endogeneity of CEO vacation days, these trips out of the office appear to have a significantly negative relation with companies' daily decisions about whether to release news to investors. The bivariate model controlling for vacation endogeneity shows an even more negative estimate for the CEO vacation variable than the univariate model, in which vacations are treated as exogenous. Other estimates in Table 6 closely follow intution: news releases are more likely on Monday through Thursday as compared to Friday, while vacation days follow exactly the opposite pattern. News is less likely to be released and CEOs are more likely to be out of the office on work days that are adjacent to public holidays. Individual month indicators (not tabulated to save space) are strongest in the vacation model for the months of August and December. In the news model the monthly indicator variables generally follow an opposite pattern, though not always. July, for example, is estimated as the single-busiest month of the year for significant news releases, even while it is estimated in the other model as being the third-highest month for vacation days.

D. Discussion

If company stock prices follow regular patterns when CEOs leave for vacations, investors could profit by keeping close track of when a CEO flies to his vacation home or returns to headquarters. The data collection for this paper suggests that traders could obtain this information by simply monitoring Internet air traffic websites.

The stock behavior with the greatest economic magnitude is the sharp drop in volatility that occurs when a CEO is away on a lengthy vacation. To profit from this pattern, a trader

would want to sell short derivative securities with a high price sensitivity to volatility, or vega, when the CEO's aircraft flies form headquarters to the CEO's vacation home, and then do the opposite when the CEO flies back. With an appropriate portfolio, these strategies could be implemented on a delta-neutral basis, with no sensitivity to the underlying stock price. The tools for these strategies, such as "straddles" and "strangles" involving put and call options, are widely taught to MBA finance students and are easily implemented by traders on the exchanges. See Chaput and Ederington (2005).

One obstacle to implementing a trading strategy could arise if companies exercised their legal rights to prevent aircraft tail numbers from appearing on public Internet sites. Congress passed legislation creating the Block Aircraft Registration Request (BARR) program in 2000 allowing companies to opt out of live tracking sites for security reasons, in order to frustrate potential terrorists or kidnappers. Currently the scope of the BARR program is under reconsideration by the FAA, Congress, and the Obama administration.[5] However, even if tail numbers were blocked from public Internet sites, aircraft are large enough to be observed physically taking off and landing at airports by "tailspotters," and tail numbers can be matched with company operators either in the FAA's online registry or by making Freedom of Information Act requests to the agency.

[5] Between 2000 and 2009, the FAA allowed any private aircraft operator to opt out of public tracking databases for an expanded list of reasons including privacy and competitive secrecy, but this policy was reversed in 2009 after the agency was sued by a variety of media outlets seeking complete lists of tail numbers under the Freedom of Information Act. The FAA elected to begin disclosing the identities of operators of aircraft with blocked tail numbers (though not their flight records) in response to such requests in 2009, and a 2010 decision by a federal court rejected a challenge by a business group to the FAA's policy. See Grabell (2010). In August 2011 the FAA greatly reduced its blocking of tail numbers but then reinstated the practice in December 2011, though not retroactively for aircraft that had already been unblocked. See Federal Register vol. 76, no. 242, p. 78328 (December 16, 2011).

V. Conclusions

This paper studies patterns of corporate news disclosures associated with CEOs' personal vacation schedules. By merging records of corporate aircraft flights with information about the location of CEOs' vacation residences, I identify days when CEOs are likely to have been away from their offices. I find several regularities in stock price behavior consistent with companies releasing good news to the market just before the CEO goes away, and then delaying subsequent news releases until he returns. The CEO's first day back in the office often features abnormally positive news. When the CEO takes a long vacation trip lasting five days or more, company stock volatility declines by approximately 15% for the period he is away. Volatility increases to normal levels in a pattern that begins one day before the CEO returns from his vacation. The results suggest that corporations release news on a schedule determined not only by when the information may be important for investors, but also when the CEO's personal schedule allows him to be present at the time of an announcement. Observing the movements of corporate aircraft to and from the CEO's vacation airport could potentially give investors valuable signals about impending disclosures by companies.

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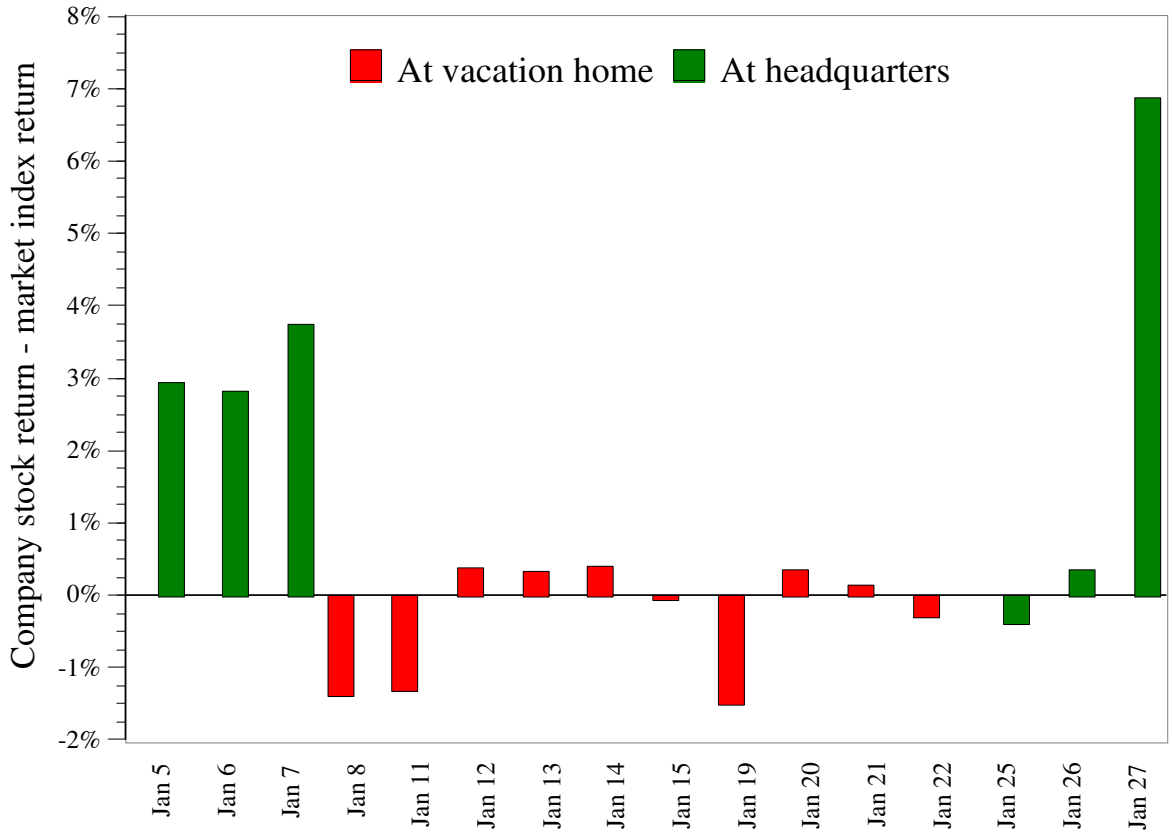

Figure 1
Boeing Co. daily stock returns, January 2010
The figure shows daily returns for the stock of Boeing Co. minus returns for the CRSP value-weighted market index for an interval of days during January 2010. On January 7 the company announced that its commercial airliner deliveries had increased 28% for the prior year and also issued an earnings forecast for the year ahead. On January 27 the company announced better-than-expected earnings results for the 4th quarter of 2009. Little news of significance was announced between those two dates, a period when the company's CEO appears to have been away from headquarters at his vacation home. Flight records for Boeing's Executive Flight Operations unit show that its Bombardier CL-600 corporate jet flew from its headquarters airport near Chicago to Washington, DC on the night of January 7, then from Washington to Palm Beach, FL, at mid-day January 8, returning to headquarters later than afternoon. On January 24, the same aircraft flew from Chicago to Palm Beach and then back to the headquarters airport. Boeing's Chairman and CEO, W. James McNerney Jr., owns a vacation home in Hobe Sound, FL, 34 miles from the Palm Beach airport, according to real estate records. Flight records are obtained from The Wall Street Journal Jet Tracker database.

Table 1
Sample of CEOs' trips to their vacation homes
The table presents descriptive statistics about 67 CEOs' travel to their vacation homes. The timing of trips is based upon flight records of corporate aircraft obtained from The Wall Street Journal Jet Tracker database for the years 2007-2010. To appear in the sample, an executive must be listed as CEO of an S&P500 firm by ExecuComp during this period, and he must own a vacation property near a destination visited regularly by his company's aircraft. Property ownership is determined from real estate records available on Lexis-Nexis. Data for vacation lengths are based upon weekdays when the U.S. stock market is open for trading and do not include weekends or holidays. A travel day counts as part of a vacation if the aircraft takes off from headquarters earlier than 4:00 p.m., or if the return flight lands at the headquarters airport at 12:00 noon or later.

CEOs in sample	67
Age (years), mean	57.9
Ownership, mean	1.95%
Total compensation (TDC1, millions), mean	$12.5
Company-day observations (total)	52.434
Company-day observations (at vacation home)	3,688
Fraction of days spent by CEO at vacation home	7.0%
Fraction of days spent by CEO at vacation home, by year	
2007	7.0%
2008	5.9%
2009	7.1%
2010	8.3%
Fraction of days spent by CEO at vacation home, by day of week	
Monday	7.7%
Tuesday	6.3%
Wednesday	6.3%
Thursday	6.5%
Friday	8.5%

Table 1
continued

Fraction of days spent by CEO at vacation home, by month

January	7.4%
February	7.9%
March	9.5%
April	5.5%
May	4.1%
June	4.6%
July	9.7%
August	9.6%
September	4.8%
October	4.2%
November	6.9%
December	10.0%

Location of CEOs' vacation homes

Florida (Palm Beach, Naples)	34
Colorado (Vail, Aspen)	10
Massachusetts (Martha's Vineyard, Nantucket)	8
South Carolina	3
New Jersey	3
11 other states	1 each

Length of trips to vacation home	Fraction of trips	Fraction of total days
1 day	36%	12%
2 days	23%	15%
3 days	12%	12%
4 days	8%	11%
5 or more days	20%	50%

Table 2
Factors associated with CEO vacation days
The table presents a probit regression model with the dependent variable equal to one if the CEO spends a day at his vacation home. The sample includes data for 67 CEOs of S&P500 companies between 2007 and 2010, with observations included for all weekdays in which the CEO holds his position and the stock market is open. The vacation day indicator equals one for days on which the CEO is out of the office at his vacation home, as determined from a database of corporate aircraft flight records maintained by the Federal Aviation Administration. Data about CEO characteristics is obtained from the ExecuComp database. Total compensation is the TDC1 quantity reported by ExecuComp. Weather data at the location of the CEO's vacation home is obtained from the National Climatic Data Center website. Standard errors robust to serial correlation and heteroskedasticity appear in parentheses below each coefficient estimate.

Variable	Estimate	Estimate	Estimate
Stock return - market return (prior six months)	0.0625	0.0608	0.0722
	(0.0454)	(0.0485)	(0.0483)
CEO age (years)	0.0098	0.0167 [c]	0.0178 [c]
	(0.0084)	(0.0098)	(0.0100)
CEO ownership x 10^3	-0.0070 [a]	-0.0064 [a]	-0.0066 [a]
	(0.0011)	(0.0011)	(0.0011)
Log of CEO total compensation	0.0008	0.0020	-0.0026
	(0.0128)	(0.0142)	(0.0141)
High daily termperature at CEO vacation home (celsius)			0.0409 [a]
			(0.0048)
High daily temperature squared			-0.0008 [a]
			(0.0001)
Daily precipitation at CEO vacation home (millimeters)			-0.0039 [a]
			(0.0011)
Day prior to holiday (indicator)			0.4362 [a]
			(0.0429)
Day following holiday (indicator)			0.4398 [a]
			(0.0448<)
Observations	52,049	48,327	48,327
Calendar month fixed effects	Yes	Yes	Yes
CEO fixed effects	Yes	Yes	Yes
Pseudo R^2	0.0741	0.0719	0.0790

Significant at 1% (a), 5% (b) and 10% (c) levels.

Table 3
Abnormal stock returns

The table presents Fama-French four-factor models of company stock returns estimated by ordinary least squares. The dependent variable equals the daily stock returns for a sample of 66 companies between 2007 and 2010. The four factors are the return on the market portfolio minus the risk-free rate (*MktRF*), the difference in returns for portfolios of growth vs. value stocks (*HML*), the difference in returns for portfolios of small vs. large stocks (*SMB*), and the difference in returns for portfolios of rising minus falling stocks (*UMD*). All returns are compounded continuously. The vacation day indicator equals one for days on which the CEO is out of the office at his vacation home, as determined from a database of corporate aircraft flight records maintained by the Federal Aviation Administration. Long vacations are those of five work days or longer. Standard errors clustered by company appear in parentheses below each coefficient estimate.

Variable	Estimate	Estimate	Estimate	Estimate	Estimate
Intercept	0.00004	0.00004	0.00005	-0.000004	0.000003
	(0.00006)	(0.00006)	(0.00006)	(0.00006)	(0.00006)
MktRF	1.0264 [a]	1.0264 [a]	1.0264 [a]	1.0263 [a]	1.0264 [a]
	(0.0457)	(0.0456)	(0.0457)	(0.0457)	(0.0457)
HML	0.0145	0.0145	0.0146	0.0146	0.0146
	(0.0761)	(0.0761)	(0.0761)	(0.0761)	(0.0761)
SMB	-0.0378	-0.0379	-0.0378	-0.0381	-0.0380
	(0.0534)	(0.0534)	(0.0534)	(0.0534)	(0.0534)
UMD	-0.0750 [b]	-0.0751 [b]	-0.0750 [b]	-0.0750 [b]	-0.0750 [b]
	(0.0359)	(0.0359)	(0.0359)	(0.0359)	(0.0359)
Vacation day indicator		-0.0001			
		(0.0003)			
Short vacation indicator			0.0001		0.0002
			(0.0004)		(0.0004)
Long vacation indicator			-0.0004		-0.0004
			(0.0004)		(0.0004)
Three days prior to long vacation				0.0016 [b]	0.0016 [b]
				(0.0007)	(0.0007)
Three days following long vacation				0.0017 [b]	0.0016 [b]
				(0.0008)	(0.0008)
Observations	52,434	52,434	52,434	52,434	52,434
R^2	0.4362	0.4362	0.4362	0.4363	0.4363

Significant at 1% (a), 5% (b) and 10% (c) levels.

Table 4

Stock volatility and frequency of news announcements for subsamples of trading days

The table shows realized stock volatility and frequencies of major news announcements for subsamples of trading days for 66 large companies between 2007 and 2010. CEO vacation schedules are inferred from corporate aircraft flight records maintained by the Federal Aviation Administration. Volatilities are calculated as the standard deviations of continuously compounded daily stock returns, annualized by multiplying by the square root of 252, the number of trading days in a typical year. Dates of news announcements and earnings releases are obtained from the Thomson Reuters Significant Developments database. A long vacation is one lasting five or more work days. All of the estimated vacation day volatilities are different from the volatility on the CEOs' ordinary work days in the office at very low significance levels according to *F*-tests.

Subsample	Daily observations	Annualized volatility	Significant news or earnings announcement frequency
CEO days in office	48,746	0.448	0.141
CEO days at vacation home	3,688	0.401	0.098
CEO days at vacation home (short trips)	1,776	0.426	0.111
CEO days at vacation home (long trips)	1,912	0.378	0.086
CEO days at vacation home (long trips, including holidays)	942	0.340	0.081
CEO days at vacation home (long trips, non-holiday)	970	0.411	0.099
Three days before long vacations	220	0.412	0.113
Two days before long vacations	230	0.364	0.113
Last days before long vacations	230	0.336	0.113
First days of long vacations	230	0.434	0.082
Middle days	1,459	0.356	0.086
Last days of long vacations	223	0.448	0.085
First days back after long vacations	223	0.386	0.157
Second days back after long vacations	222	0.403	0.103
Third days back after long vacations	211	0.417	0.118

Table 5
Stock volatilities for individual companies

The table shows stock volatilities for 49 companies on days that the CEOs are on long vacations and days that the CEOs are in the office. A long vacation is defined as a trip to the CEO's vacation home for at least five consecutive working days. Office days are all days excluding both long and short trips to the vacation home. Trips are inferred from flight records of corporate aircraft maintained by the Federal Aviation Administration. The sample period includes all trading days between 2007 and 2010 for which the individual manager served in the CEO position. Seventeen additional. firms are in the sample, but their CEOs do not take any long vacations during the sample period. The right column shows the ratio for each company between the volatilities on office days and long vacation days. The *t*-statistic at the bottom of the table tests the null hypothesis that the mean of this ratio, equal weighted across companies, equals one.

	Days		Volatility				Days		Volatility		
	Office	Vacation	Office	Vacation	Ratio		Office	Vacation	Office	Vacation	Ratio
Bank of America	748	6	0.926	0.236	0.254	CVS Caremark	853	76	0.327	0.278	0.850
Johnson & Johnson	979	12	0.194	0.067	0.345	Nabors Industries	816	105	0.581	0.495	0.852
General Dynamics	577	5	0.336	0.118	0.352	International Paper	911	47	0.554	0.475	0.858
Verizon Communications	939	33	0.303	0.151	0.498	Duke Energy	963	28	0.247	0.213	0.862
Pfizer	942	6	0.285	0.144	0.505	Procter & Gamble	588	20	0.254	0.222	0.876
ConocoPhillips	992	6	0.392	0.203	0.516	Anadarko Petroleum	939	29	0.541	0.476	0.880
Computer Sciences	115	7	0.244	0.135	0.554	H.J. Heinz	824	119	0.221	0.195	0.882
Unum Group	969	28	0.612	0.343	0.561	Ball	977	16	0.313	0.277	0.886
Leucadia National	754	103	0.573	0.344	0.601	VF	708	48	0.389	0.353	0.909
Boeing	954	37	0.366	0.220	0.602	Entergy	960	32	0.292	0.273	0.933
Marathon Oil	978	12	0.487	0.305	0.625	W.W. Grainger	305	24	0.238	0.223	0.935
General Electric	966	15	0.431	0.273	0.635	Covidien	154	75	0.254	0.239	0.940
Yum Brands	967	10	0.334	0.214	0.641	Air Products	663	68	0.389	0.370	0.950
ExxonMobil	995	5	0.322	0.207	0.642	Cintas	830	100	0.326	0.320	0.981
Johnson Controls	150	6	0.259	0.168	0.648	Limited Brands	961	40	0.500	0.504	1.008
Boston Scientific	602	15	0.502	0.328	0.654	Airgas	889	75	0.468	0.475	1.015
ConAgra Foods	948	54	0.244	0.162	0.664	Wyndham Worldwide	975	10	0.718	0.865	1.205
Amgen Inc	880	89	0.327	0.225	0.687	American International Group	336	24	0.353	0.426	1.208
Hess	932	16	0.565	0.395	0.699	Visa	698	5	0.449	0.598	1.331
Abbott Laboratories	990	5	0.232	0.163	0.705	Fortune Brands	205	38	0.175	0.235	1.340
Novellus Systems	836	146	0.428	0.313	0.731	Starbucks	712	30	0.457	0.625	1.366
Mccormick	237	11	0.217	0.160	0.737	PNC Financial Services Group	948	24	0.636	1.330	2.092
Tesoro	962	27	0.645	0.488	0.756	Lincoln National	148	14	0.223	0.531	2.383
AK Steel	966	10	0.801	0.619	0.773						
EMC	754	103	0.401	0.314	0.784	Mean, 49 companies			0.403	0.340	0.848
Comcast	811	98	0.429	0.356	0.831	*t*-statistic					2.93

Table 6

Bivariate probit estimates of probability that company releases significant news

The table presents probit regression estimates. The left half of the table shows univariate probit models of the probability that the CEO spends a day at his vacation home (left two columns) and the probability that the company releases significant news (third and fourth columns). The right half of the table shows a bivariate probit model of the same two dependent variables, with the CEO vacation variable also appearing as an endogenous covariate in the model for new releases. The sample includes data for 67 CEOs of S&P500 companies between 2007 and 2010, with observations included for all weekdays in which the CEO holds his position and the stock market is open. The vacation day indicator equals one for days on which the CEO is out of the office at his vacation home, as determined from a database of corporate aircraft flight records maintained by the Federal Aviation Administration. CEO ownership data is obtained from the ExecuComp database. Weather data at the location of the CEO's vacation home is obtained from the National Climatic Data Center website. The news variable equals one for days on which the company makes a quarterly earnings announcement or releases significant news, according to the Thomson Reuters Significant Developments database. Standard errors robust to serial correlation and heteroskedasticity appear in parentheses below each coefficient estimate.

Estimation	Univariate probit		Univariate probit		Bivariate probit			
Dependent variable	CEO vacation day		Major news day		CEO vacation day		Major news day	
	Coef.	Std.Err.	Coef.	Std.Err.	Coef.	Std.Err.	Coef.	Std.Err.
Intercept	-1.574	0.053 [a]	-1.433	0.033 [a]	-1.562	0.056 [a]	-1.365	0.065 [a]
Stock return - market return (prior six months)	0.072	0.040 [c]			0.089	0.044 [b]		
CEO ownership x 10^3	1.8 e-6	0.6 e-6 [a]			1.2 e-6	0.9 e-6		
High termperature at CEO vacation home (°C)	0.051	0.004 [a]			0.051	0.005 [a]		
High temperature squared	-0.0014	-0.0001 [a]			-0.0014	-0.0001 [a]		
Precipitation at CEO vacation home (mm)	-0.003	0.001 [a]			-0.003	0.001 [a]		
Monday indicator	-0.055	0.028 [b]	0.152	0.025 [b]	-0.057	0.028 [b]	0.146	0.025 [a]
Tuesday indicator	-0.165	0.028 [a]	0.234	0.024 [a]	-0.166	0.028 [a]	0.217	0.027 [a]
Wednesday indicator	-0.131	0.028 [a]	0.261	0.024 [a]	-0.133	0.028 [a]	0.247	0.026 [a]
Thursday indicator	-0.129	0.028 [a]	0.286	0.024 [a]	-0.129	0.028 [a]	0.271	0.026 [a]
Pre- or Post-holiday indicator	0.390	0.030 [a]	-0.186	0.032 [a]	0.391	0.030 [a]	-0.151	0.044 [a]
CEO at vacation home indicator			-0.146	0.031 [a]			-0.636	0.333 [b]
Observations	48,327		48,327		48,327		48,327	
Calendar month fixed effects	Yes		Yes		Yes		Yes	
CEO fixed effects	No		No		No		No	
Pseudo R^2	0.021		0.008					

Significant at 1% (a), 5% (b) and 10% (c) levels.