STOCK PRICE REACTIONS TO CORPORATE NEWS ANNOUNCEMENTS

A CROSS-TIME STUDY OF U.S. EARNINGS, SPLITS, AND DIVIDENDS DATA

A Thesis

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by

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ABSTRACT

This paper details the share price reaction to dividend, earnings, and stock split announcements over a 37-year period. It first considers whether there is differential information content in similar corporate news announcements for different types of firms. Second, it investigates whether the value of news information about these firms has declined over time (addressing the question of whether news has become "less newsworthy"). We go on to study the relationship between stock price reactions to corporate news announcements and characteristics of the firms. Operating under the assumption that news announcements have an asymmetrical impact on stock price according to factors like firm size, years of being publicly traded, or industry classification, we categorize firms by whether their corporate news announcements will be more or less valuable to the public. For example, since the public may know more about larger firms, we expect the market to react less strongly (in absolute value) to new information from large firms. We find strong support for this hypothesis. We find little evidence that is consistent with the idea that "news has become less newsworthy" over the past four decades. However, although we do find that the share price reaction to "good" dividend news has become less positive and to "bad" dividend news has become less negative over time, no such related evidence exists for stock splits and earnings announcements. We also find an increase in standard deviation of three day returns around earnings and splits announcements over time, with noteworthy convergence amongst positive, negative and neutral earnings announcements. Additional investigation of entire distributions of returns using kernel density estimators also rejects the "news is no longer newsworthy" idea.

BIOGRAPHICAL SKETCH

Kerry Motelson graduated in three years from Cornell University with a Bachelors of Science in Industrial and Labor Relations in 2008 and in 2009 pursued a Masters of Science in Labor Economics and Human Resource Studies. Kerry is a Merrill Presidential Scholar ('08), Daniel Alpern Scholar ('08), John O'Donnell Award Recipient ('07) and Linda Schwartz Scholar ('07).

Kerry worked at Lehman Brothers in 2007 as an analyst both in High Grade Credit Sales and in Global Consumer Investment Banking. In 2008, Kerry was an analyst at Goldman Sachs in New Products Investment Banking, focusing on tax-advantaged divestiture strategies. Kerry currently works in the Institutional Securities Group, Margin and Structured Products at Morgan Stanley, focusing on Commodities.

At Cornell, Kerry co-founded Scrimple.com, an online advertising solution for local businesses. The company has recently launched a new platform, blueskylocal.com, centered around geographically differentiated marketing methods for firms nationwide, offering local businesses assess to state-of-the art technology to respond in real-time to changing conditions (like weather) and garner constant communication through texts, emails and print letters, with their customers. Kerry now serves on the Board of Directors.

Kerry enjoys horseback riding and teaching lessons in her spare time and is a three-time Northeast Junior Dressage Champion. She has managed three equestrian academies in Northern Westchester and in the greater Ithaca region. She is also an avid runner.

This work is dedicated to my mother, Barbara Motelson; my father, Jeffrey Motelson; my brother, Keith Motelson; my grandparents (Lillian, Henry and Millicent); my phenomenal advisor, Kevin Hallock (who, despite an endless list of other commitments still managed to dedicate time and energy to fostering my academic development); the inspirational and humorous Economic Historian who graced me with several years of lectures, George Boyer; the numerous friends who made my years at Cornell all the merrier; and my dog Junior.

Thank you.

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CHAPTER 1

INTRODUCTION AND DATA DESCRIPTION

Introduction

Research on market efficiency with respect to economic events (e.g. CPI inflation rate changes, discount rate announcements, money stock reports), namely the work of Waud (1970), Castanias (1979), Schwert (1981), and Pearce (1983), has laid the foundation for a large literature examining the stock price reaction to corporate news announcements.[1] It is accepted by both academics and practitioners that increased trading volume in public securities markets and changes in stock prices signal corporate information dissemination and investor processing.[2] Although the absolute impact of news events (e.g. splits, dividends, and earnings) on market activity have been examined independently, this paper seeks to explore the variance of investor reaction to these news announcements over an extensive time series and address the discrepancy of 'novelty' of information content for announcements.[3] To the latter point, not all announcements effectuate the same trading reactions, which may be partially attributed to industry or firm size.[4]

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[1] See, as an example, Pearce and Roley (1985). Using survey data, the paper examines the daily response of stock prices to announcements about the money supply, inflation, real economic activity and the discount rate. Survey data on market participants' expectations of the announcements are used to identify the "unexpected" component of announcements to test the efficient markets hypothesis that only the "surprise" component moves stock price. Empirical results of the paper support this hypothesis and directionally indicate that surprises related to monetary policy substantially affect stock price. There is only weak evidence of stock price responses beyond the given announcement day.

[2] Morse, 1981, Verrecchia, (1981) demonstrate that these are not sufficient to describe completely the dissemination of information and its interpretation by investors.

[3] Beaver, 1968, investigated price changes and volume of trading during the trading week of annual earnings announcements with a focus on whether announcements had "information content" which was the impetus for investors to assess potential future returns on their investment.

[4] It is noted by Chambers and Penman that there is much evidence (originally suggested in Beaver, 1968) that information is interpreted in the context of industry trends as well as other external influences may contribute to a lagged response of trading volume and price reaction.

Building on Hallock and Mashayekhi (2006), this paper controls for industry effects in addition to size quintile and cross-time characteristics. Using the extensive longitudinal information provided by I/B/E/S and CRSP, we collected information on individual companies including the earnings announcement amount, dividend announcement amount, split announcement factor, and corresponding announcement dates. The industry characteristics delineated by Compustat allow us to control for endogenous factors that may affect excess cumulative returns. These characteristics, including measures of revenue (e.g. earnings from operations) and market cap, are particularly important over the time-series as we seek to address as many covariates that may be correlated with the error term as possible given available data. In essence, by addressing industry differences amongst the companies, we can attribute excess cumulative return movement to the event of interest and siphon out as much "additional noise" as possible.

A few points on our interest in industry vectors are in order. While literature surrounding the impact of firm size on trading activity is largely uncontested by academics (as larger firms receive more coverage by both the media and banking analysts)[5], considering industry and their respective influence on stock performance is a more nuanced task, as many socioeconomic forces and indirect correlations between firms of peripheral sectors must be considered. Furthermore, weight may be attributed to the party holding political power and the consolidation (or deconsolidation) of industries and the consequential movement of assets and capital to and from domestic companies. Take for example, the banking industry. In the early 1970s, there

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[5] For example, Hong, Lim and Stein (2000) explore stock momentum as a function of analyst coverage and firm size

were just over 43,000 banks in the U.S. In 1990, there were approximately 12,000. Today, there are just over 8,000 domestic banks.[6] The movement of assets to the largest banks amplifies this trend of institutional consolidation. Indeed, the percent of assets in each of the top 10 banks account for nearly 67% of assets invested in all banks. Compare this to 1970, when the top 10 banks only represented 23% of invested assets.[7] This consolidation both directly and indirectly influences the competitive landscape of the industry and similarly impacts the effect of announcements on competitors.[8] As the phenomenon of consolidation continues in other industries (insurance, discount retailers), the importance of attributing the correct weight to industry considerations is amplified.[9]

Data Sources and Description

Five different data sources are employed in this work. First, data on job loss announcements are used from the motivating work of Hallock and Farber (2009); second, data on earnings announcements from the Institutional Brokers Estimate System (I/B/E/S) are used; third, data on dividend announcements collected from the Center for Research in Security Prices (CRSP) at the University of Chicago are used; finally, data on stock splits are

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[6] Domestic bank refers to any bank regulated by U.S. banking authority regardless of central headquarters.

[7] Thompson Financial, 08-June-09

[8] In the opposite light, take the radio industry as an example of deconsolidation. In the 1970s and 1980s at the local level, no radio provider could have more than 2 AM and 2 FM stations in their ownership. In the early 1990s, this number rose to 8 AM and 8 FM stations.

[9] As discussed in the final section (*Summary, Concluding Comments, and Suggestions for Future Work*), researching the situations surrounding individual companies and their strategic initiatives around announcement dates in the context of competitor's announcements or complementary company announcements is good ground for future work and would require creating a database of contextually-rich data on all corporate announcements. In the instant paper we did not factor in considerations of political party

compiled from CRSP. Information on firm stock returns and market returns are similarly collected from CRSP and COMPUSTAT.[10]

Whether or not an earnings announcement coincides with a large "shock" is largely attributed to the forecasts of analysts who have greater access to the financial status of companies via investment houses than the general public. Thus, the movement of stock price over time is largely related to analyst expectations, which form baseline expectations from which the public compares corporate outcomes (via announcement). We accordingly matched earnings announcements by date and most recent analyst forecast estimate to determine whether announcements met, exceeded or fell below expectations. The cumulative excess returns which reflected any additional "stock shock" were then considered in a three-day window of time, detailing market reaction to any given news event to address the plausible early dissemination of information to the public. The main subject of interest is whether the standard deviation of excess cumulative returns in the window surrounding the announcements has trended towards or away from zero over time. Applying the same idea to splits and dividends, we study the impact of announcements over time. In the case of splits, the "baseline" of comparison is rather undefined (as splits have no direct economic impact on valuation metrics) while in the case of dividends news events pertain to meeting, beating or exceeding prior dividend payments is used as baseline precedent. We employed a time key that takes into account only days that the market is open as to avoid inappropriately suggesting that trading activity dealt with the news event rather than the market being open or not.

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[10] In compiling split and dividend information, we merged CRSP and I/B/E/S data around specific announcement days by creating a "iclink" table, sorting and scoring CUSIP – PERMNO matches for each company.

Layoff Announcements

The layoff announcement data come from an archival data source compiled by Farber and Hallock (2009) and extended by Hallock (2009).[11] First, the sample frame was identified as all firms in the *Fortune* 500 in any year from 1970 – 2007, inclusive. The *Wall Street Journal* Index was then employed to garner information on all layoff announcements in each of the firms in question in each of the 38 years. The index is published annually and contains a listing of abstracts by firm name of each article in the *Wall Street Journal*.[12] After this process was completed, a total of 5,353 announced layoffs were recorded. In another step, each actual article (not just the abstracts) was then carefully read so that additional information (e.g. number of workers in announced layoff) could be collected for more of the layoffs in the sample. The frequency of the number of job loss announcements for the firms in the sample is plotted against the U.S. civilian unemployment rate in Figure 1. The number of job loss announcements by time in the sample largely mirrors the business cycle. For example, in 1975 there were approximately 280 layoff announcements, with a 8.2% unemployment rate, and in 2002 there were approximately 150 layoff announcements with a corresponding 5.8% unemployment rate. (See Figure 1).

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[11] See Farber and Hallock (2009), pg 3-4, and Hallock (2009) for more details on these data.
[12] Paper (rather than the digital) copies of the index were used.

Figure 1. Number of Layoff Announcements and Unemployment Rate, by Year
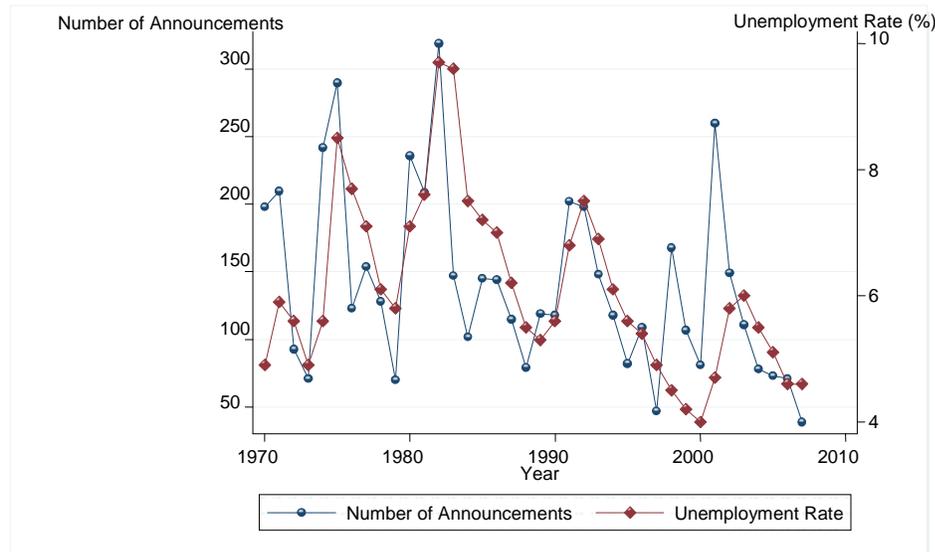
Source: For the data on the frequency of all job loss announcements by year, the sample frame is all firms that were ever in the *Fortune* 500 between 1970 and 2007, inclusive. Paper copies of the *Wall Street Journal* Index were used to seek information on all layoff announcements by each of these firms in each year. The Index is published annually and contains a listing of abstracts by firm name of each article in the *Wall Street Journal*. After this process was completed, a total of 5,353 announced layoffs were recorded in 791 different firms. In an additional step, each full-length article was then carefully read so that we could be sure these were actual layoff announcements. For more detail on the data see Farber and Hallock (2004) and Hallock (2009). Data on the annual unemployment rate (civilian unemployment rate) were collected from the Economic Report of the President (2009).

Earnings Announcements

Earnings announcement data are collected from the Institutional Brokers Estimate System (I/B/E/S). These data include information on announced earnings per share for every publicly traded U.S. firm of interest. I/B/E/S data, unlike CRSP and Wall Street Journal data, are only available for the years 1974 – 2007. The timeframe of 1970 – 1973 is thus omitted from our earnings analysis. Unlike dividend announcements and stock splits, firms must report earnings in a systematic way. The distribution of the number of earnings announcements in the sample is plotted in Figure 2A.

We also matched the actual earnings announcement with additional data in I/B/E/S on the most recent analyst forecast of earnings for the firm of interest[13]. We then categorized the earnings news as "good," "bad," or "neutral". Using the date of observation provided in the analyst earnings forecast file and the actual announcement date, we merged the most recent analyst estimates according to CUSIP identifier. News is considered "good" if the actual announcement of earnings is higher than the forecast of the most recent analyst; it is considered "neutral" if the actual announcement exactly meets the most recent analyst forecast; and it is categorized as "bad" if the most recent forecast of earnings is higher than the actual announcement of earnings. In aggregate, we have 454,430 matched earnings announcements with performance against the most recent forecast of earnings for any given company. Because of the enormity of the sample, we used a random 1/20 sample for the calculation of excess cumulative returns (see Table I). Although our sample size correspondingly decreases with the selection criteria, the sample is still relatively large.

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[13] The additional specifications narrowed the sample timeframe to 1987-2007.

Interestingly, the frequency of "bad" news has become more common since 1990, while "good" news has become increasingly less common.[14] As seen in Figure 2B, "neutral" earnings news is substantially less common than either "good" or "bad" earnings news.

Figure 2A. Frequency of Earnings Announcements
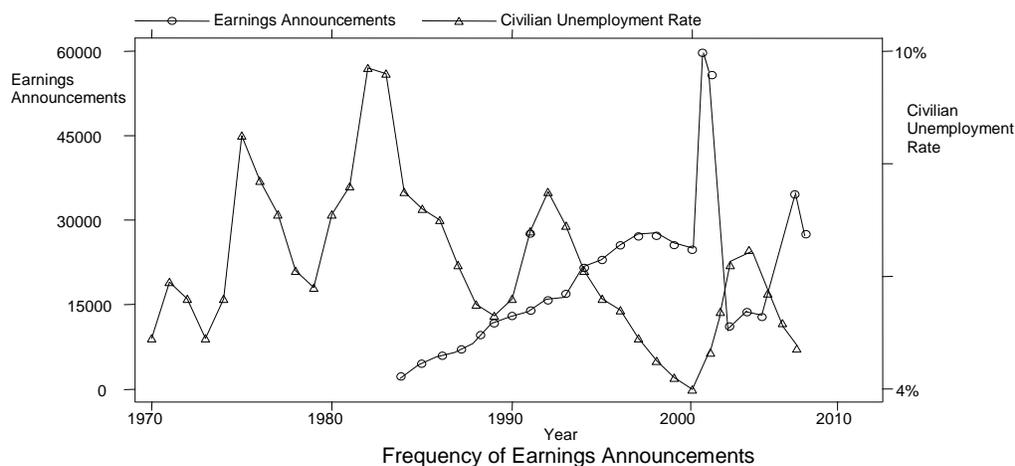
Frequency of Earnings Announcements

Notes: Data are collected from the Institutional Brokers Estimate System (I/B/E/S). These include information on announced earnings per share for every firm in the sample. We have 454,430 observations on earnings announcements.

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[14] Although one may hypothesize that economic vectors largely explain the noted trend in good announcements versus bad announcements, one must not discount the importance that increasing the transparency of publicly traded companies has had on general knowledge of their financial conditions (and income status).

Figure 2B. Fraction of Earnings Announcements by Type
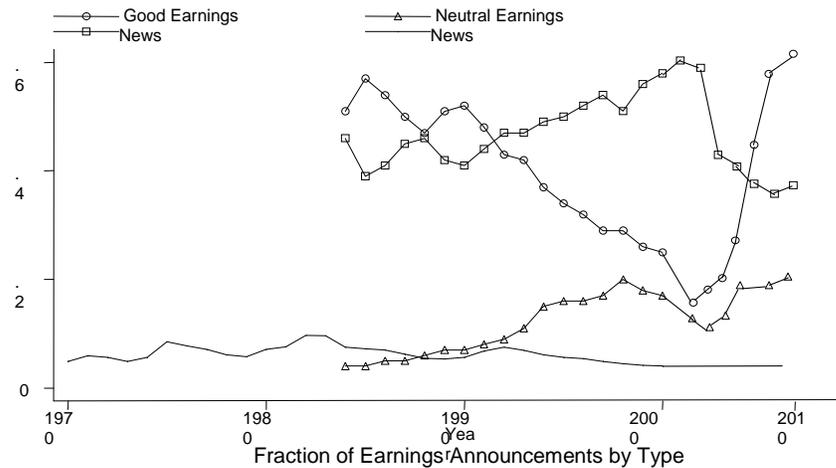
Fraction of Earnings Announcements by Type

Notes: Data are collected from the Institutional Brokers Estimate System (I/B/E/S). These include information on announced earnings per share for every firm in the sample. We have 454,430 observations on earnings announcements. We were able to match the announcements with additional data in I/B/E/S on the most recent analyst forecast of earnings for the firm in question. News is considered "good" if the actual announcement of earnings is higher than the most recent analyst forecast. News is considered "neutral" if the actual announcement is exactly the same as the most recent analyst forecast. News is considered "bad" if the most recent forecast is higher than the actual announcement.

Dividend Announcements

The data on dividend announcements come from the Center for Research in Security Prices (CRSP) at the University of Chicago. We selected dividends announcements from among eight categories of ordinary US cash dividends.[15] Of the multiple dates associated with dividends (report date, record date, declaration date, distribution date), we use the declaration date as the date of the event. To check the accuracy of the declaration date, the 8-K

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15 These eight categories correspond with codes 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. We were not interested in foreign owned companies, stock option distributions and other non-cash tender exchanges, which pick up noise from other corporate initiatives like spin-merges, spin-IPOs or split-offs.

public press releases of a random set of companies detailed in the data were collected from the SEC website and compared to the dates on CRSP record.[16] Observations that had a missing announcement date were dropped. Our data include 364,270 dividends announcements from 1970-2007. Figure 3A details the frequency distribution of the number of dividend announcements for each year of interest.[17]   As noted in Hallock and Mashayekhi (2006), there was a notable increase in the number of dividend announcements through the 1970s. This was followed by a significant decline until the mid 1980s. 2007 had the largest number of dividend announcements relative to any single prior year, but generally the number of announcements has been stable since the late 1980s.

Next, we separated announced cash dividend payments into three different categories based on the type of news: "good," "bad," and "neutral". A dividend announcement is defined as "bad" if the firm's announced cash dividend amount is less than the firm's previous cash dividend payment. It is considered a "good" announcement if the announced cash dividend payment is more than the previous cash dividend payment. Finally, a dividend payment is considered "neutral" if the announced cash dividend is equal to the previous cash dividend payment. The fraction of dividends that can be categorized into the different types for our 38 years of data is summarized in Figure 3B. Although there is variability in the data, it is most likely that dividends fall into the "neutral" category at around 70% of the time, the fraction categorized as

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[16] Of the 50 companies checked, 48 companies matched exactly to the CRSP data. The two that did not match perfectly were within a trading day of the CRSP declaration date. This discrepancy may be due to the timing of the release.
17 We also plot the civilian unemployment rate as a benchmark for other economy-wide variables in Figure 1.

"good" is about 20% and as bad is generally less than 10% for any given year of interest.

Figure 3A. Frequency of Dividend Announcement
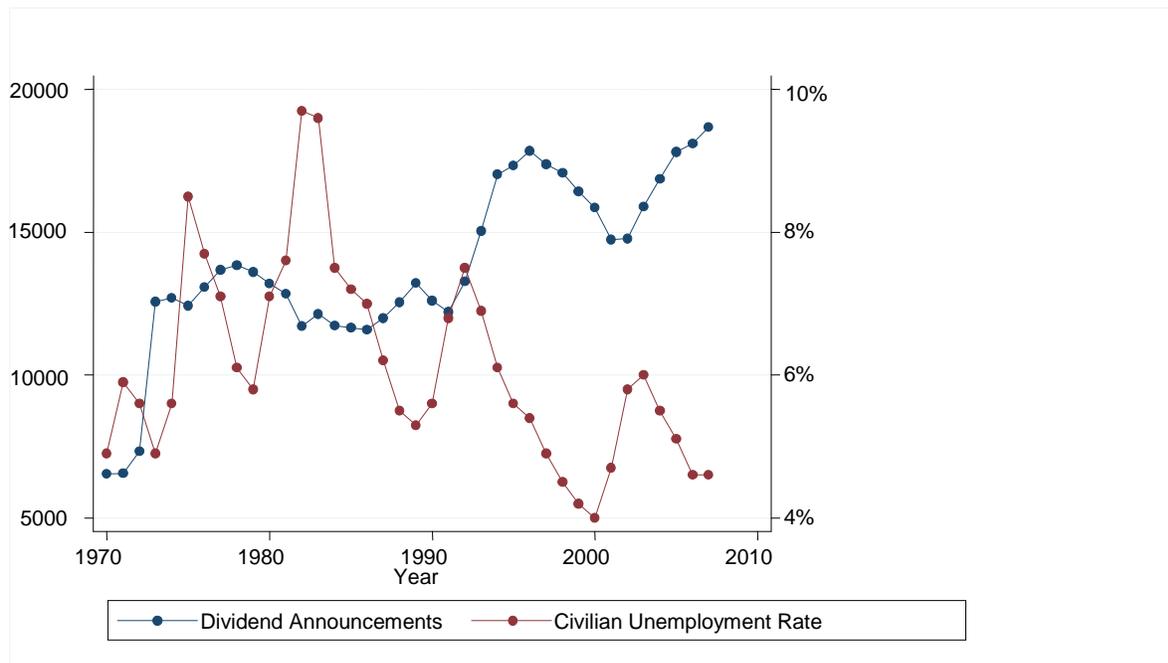
Notes: Data on dividend announcements are collected from the Center for Research in Security prices (CRSP) at the University of Chicago. Dividend announcements were collected from eight categories of U.S. cash dividends: 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with missing announcement dates were dropped. The data include dividend announcements from 1970 – 2007. Data on the annual unemployment rate (civilian unemployment rate) were collected from the Economic Report of the President (2009).

Figure 3B. Fraction of Dividend Announcements by Type
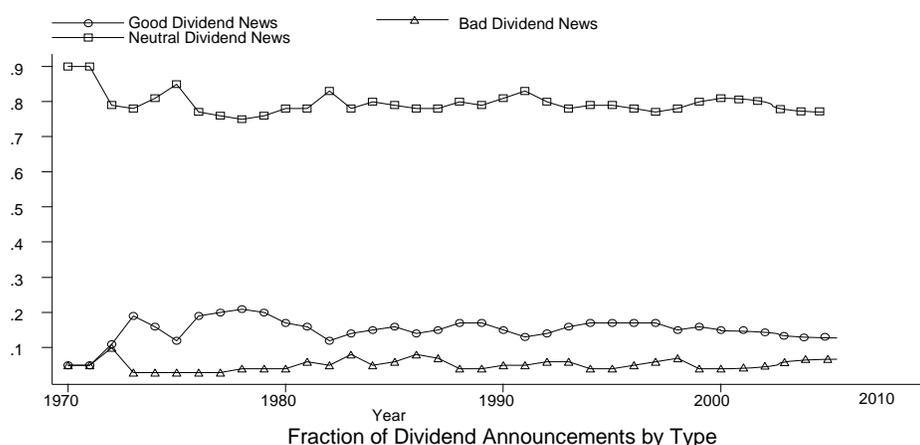
Fraction of Dividend Announcements by Type

Notes: Data on dividend announcements are collected from the Center for Research in Security prices (CRSP) at the University of Chicago. Dividend announcements were collected from eight categories of U.S. cash dividends: 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with missing announcement dates were dropped. The data include 297,554 dividend announcements from 1970 – 2007. A dividend announcement is considered "bad" news if the firm's announced cash dividend amount is less than the firm's previous cash dividend payment. It is considered "good" news if the announced cash dividend payment is more than the previous cash dividend payment. A dividend payment is considered "neutral" if the announced cash dividend is equal to the previous cash dividend payment.

Stock Splits

The stock split data are also collected from the Center for Research in Security Prices (CRSP) at the University of Chicago. Our data include 43,529 stock split announcements.[18] From Figure 4A it is evident that splits generally become more common throughout the 1970s to the late 1980s. Then after a short period of decline into the early 1990s, they increased again throughout

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[18] Stock splits are coded with a 5 in the first digit of the 4-digit identifying code.

the rest of that decade. From 2000 to 2007 the number of splits issued by firms has increased steadily, with a significant surge in 2006.

For purposes of understanding the types of splits issued by firms (and to therefore attempt to address any differential information conveyed through splits across time), we delineated stock splits into one of three categories. The first category is "2 for 1" stock splits. As seen in Figure 4B, this is a relatively rare type (just over 10%) in the early 1970s and has grown steadily over the past three decades to be the most common of the categories in the year 2007 at just over 95%. The second category is "less than 2 for 1" splits. This was the most common category in the early 1970s (at around 80%) but has declined steady over the past three decades and, as of 2007 is just around 1%.[19] The final category is "greater than 2 for 1" splits. These are quite rare and have hovered under 5% over the entire period of the sample.

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[19] Splits that are less than 1:1 are referred to as reverse splits. This form of splits is indicative of poor past performance. Stocks below a $5 mark cannot be marginalized so a firm seeking institutional investor tender may employ a reverse split to target a higher per-share price.

Figure 4A. Frequency of Stock Splits by Year
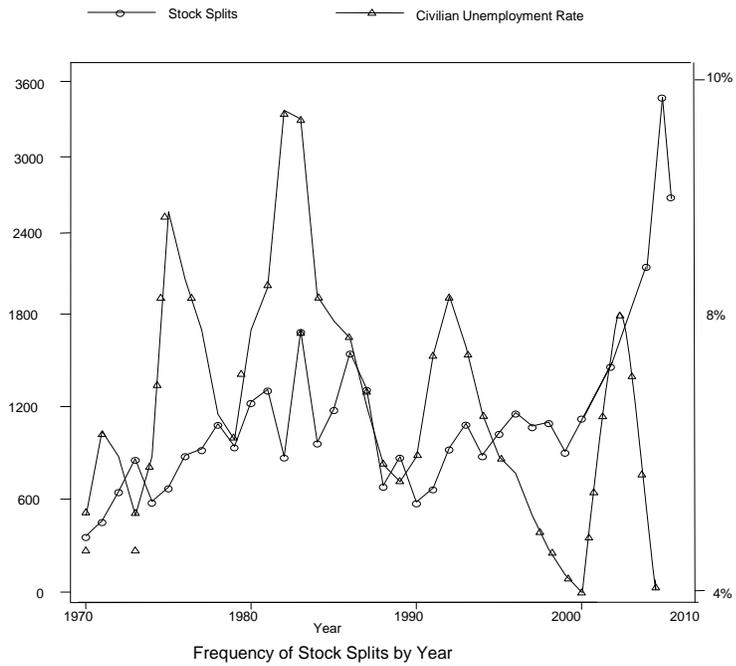
Frequency of Stock Splits by Year

Notes: Data on stock splits are collected from the Center for Research in Security Prices (CRSP) at the University of Chicago. Our data include 43,259 stock split announcements. Data on the annual unemployment rate (civilian unemployment rate) were collected from the Economic Report of the President (2009).

Figure 4B. Fraction of Split Announcements by Type

Fraction of Split Announcements by Type
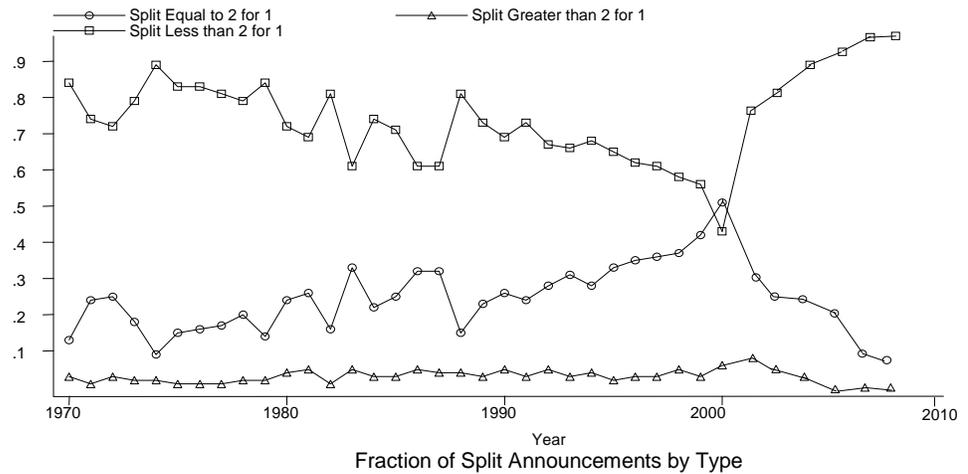
Notes: Data on stock splits are collected from the Center for Research on Security Prices (CRSP) at the University of Chicago. Our data include 43,259 stock split announcements. Stock splits are grouped into one of three categories: "2 for 1" splits, less than "2 for 1" splits, and greater than "2 for 1" splits

CHAPTER 2

STOCK MARKET REACTION TO CORPORATE FINANCIAL NEWS

Motivating Example: Share Price Reaction to Job Loss Announcements

Farber and Hallock (2009) and Hallock (2009) investigate the relationship between job loss announcements and stock prices. This serve as a motivation for our work. Through their analysis, they find that the share price reaction has become less negative over time.   The share price reaction averaged –0.283 percent (and significantly negative) in the 1970s, -0.091 percent in the 1980s, and +0.125 percent (but not significantly different from zero) in the 1990s. They also document a steady decline in the negative share price reaction of job loss announcements over the period of 1970-2000. A summary of their results is displayed in Figure 5. In this figure the cumulative average excess return for each year from 1970 – 1999 are plotted on the graph for the "3 day window" representing days –1, 0, and +1.

Farber and Hallock (2009) employ a variety of robustness checks on this basic result. They show that regardless of whether the cumulative median excess returns or the fraction negative is used, the same basic result of a gradual decline (in absolute va   9.   he share price reaction over time is found.   Furthermore, using varying "window" widths has little discernable effect on the results. That is, if the window widths of one day (day 0) or 11 days (day –5 though day +5) are used, the same basic results hold. It is also clear from Figure 5 that this less negative share price over time also holds when layoffs are not contaminated by other corporate news announcements.[20]

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[20] Clear of dividend announcements means that layoff announcements in the sample do not occur within ten days of a dividend (earnings) announcement in the same firm. Clear of recent layoffs means that the layoff announcement is at least 100 days after any other layoff announcement in the same firm.

One possible reason for this gradual decline toward zero is that news is no longer newsworthy. This contention suggests that there is less news content in announcements released more recently so share prices react less powerfully than they did in the 1970s.[21] Farber and Hallock (2009) reject this hypothesis in their work on job loss and instead turn to the relative importance of reasons for layoff announcements (namely demand deficiency and efficiency reasons).[22]

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[21] Hallock and Mashayekhi (2006)
[22] See Hallock (2009)

Figure 5. Share Price Reaction to Job Loss Announcements: Mean Cumulative Excess Returns, 3 Day Window
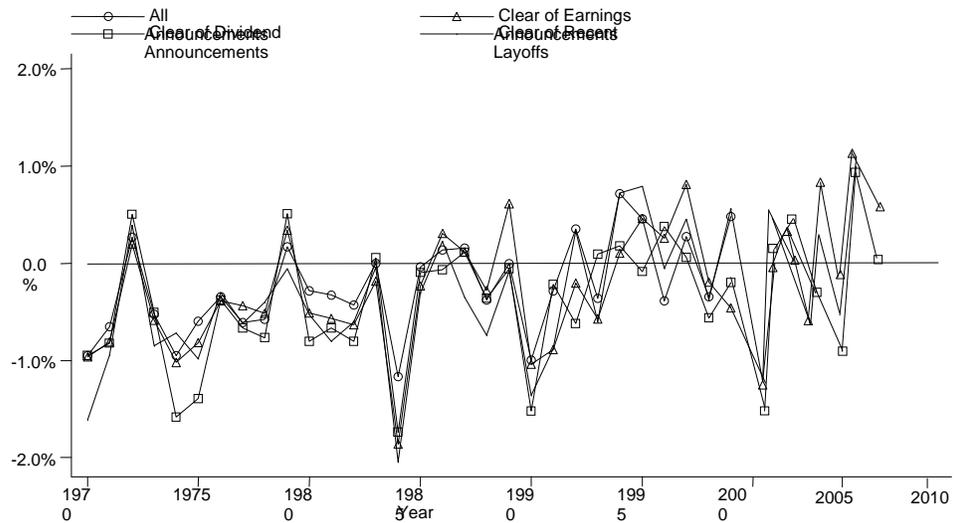
Notes: All announcement information from Hallock 2009, using announcement information from the *Wall Street Journal* and data stock price data from the Center for Research in Security Prices (CRSP). "All announcements" refers to the 3 day cumulative excess return to the job loss announcements by year. The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around s = 0, the event date. Abnormal returns are computed as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement and then averaging over all firms within each year.   Clear of dividend (earnings) announcements means that the layoffs in the sub-sample do not occur within ten days of a dividend (earnings) announcement. Clear of recent layoffs means that the layoffs in the sub-sample are at least 100 days after any other layoff announcement by the same firm. Various changes to this selection criteria do not have meaningful effects on the results.

General Announcement Reaction

To better understand the impact of announcements on trading activity, a window of time (inclusive of the actual event) must be considered, as Morse (1978) argued: "trading prior to a public announcement may occur because of differences in beliefs about the probability of different signals being emitted by the public announcement. These differences in beliefs may be caused by the

asymmetric distribution of the information before its public announcement. Trading volume following the public announcement may be due to different interpretations of the signal released and/or investors returning to diversified positions after taking speculative positions prior to the public announcement. Significant price changes surrounding public announcements may occur when some nonzero subset of investors receives a signal that changes their beliefs. Therefore, price changes prior to the public announcement may indicate that the signal or some clue about it had been received by a subset of the population.' A price change immediately following the public announcement indicates some consensus change in beliefs caused by the signal."[23] As such, we have constructed an absolute return window around the event(s) of interest according to the trading calendar.[24]

Although research suggests different extents to which internal and external variables contribute to estimated abnormal returns around announcement times, it has been widely accepted that the reaction time of investors is lagged in response to corporate economic events.[25] This lag may be attributed to an information-processing period wherein there is an

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[23] Morse (1981) p. 760

[24] Furthermore, it has been contended that the very timing of corporate disclosures signals the directionally positive or negative nature of news. As Patell and Wolfson (1982) examine firm behavior in respect to systematic intraday timing of earnings and dividend announcements, testing the hypothesis that good news is more likely to be released at the open of markets while bad news appears after the close of trading more frequently. Endogenous and exogenous variables like stock price change and comparison to the preceding period's earnings or dividends respectively are used to distinguish good news from bad and information content analysis predicated on daily stock price data is manipulated to show how differences in disclosure timing impact inferences about the magnitude of security price response and the speed of price adjustment from announcement (time zero).

[25] Ball and Brown (1968), Jot, Litzenberger and McEnally (1977), Watts (1978), Rendleman, Jones and Latane (1982), Foster, Olsen and Shelvin (1984), Bernard and Thomas (1990) Chan (2003), Daniel (1998), Barberis (1998), Hong and Stein (1999), suggest that investors rely on the past representativeness heuristic, conservatism, and ignorance of news (and overreaction to prices) which results in initial underreaction to announcements followed by overreaction (or lagged reaction).

"unbiased" reaction on the day of the announcement, but investor trading activity fluctuates in the subsequent days[26] as the implications of announcements are more fully felt over time.[27]

Furthermore, wealth and risk preferences may effectuate different magnitudes and timing of investor responses.[28] This factor is influential in appropriately contributing market responses (in trading volume and general activity) in some part to factors unassociated with an announcement. As an example, an institutional or private investor may have a change in investment mandate or capital needs that are entirely unrelated to announcements but may occur serendipitously around the event time. This may be argued to be support for omitted variable bias contentions in our sample output.

Earnings

In compliance with SEC mandates, publicly traded companies announce earnings on a regular basis (although their calendar years may vary). Publicly traded U.S. companies also must post quarterly earnings announcements for the purpose of keeping shareholders abreast of the businesses' financial status. As Fama (1991) detailed, in an inefficient market, the share price of any given firm may fail to reflect all information pertaining to its operations, and abnormal returns/ arbitrage may be garnered by capitalizing on the time lag between the announcement and the incorporation of information into volume and direction of trading. Regardless, the disclosure

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[26] This is suggested by Morse(2002)

[27] It is important to address the plausibility that "excess volatility" in prices (e.g. when stock prices demonstrate large movements not associated with a news announcement) may be due to price movements unrelated to news announcements. Chan (2003)

[28] The issue of whether firm-specific information can be isolated to some extent from market factors, both informational and non-informational in nature, may be mitigated with econometric technique and empirical methods. Assuming price changes and trading volume related to firm-specific information can be isolated to some degree, we can then consider interpretations of the results.

of earnings information effectuates - both directly and indirectly- the volatility of stock price, as earnings are an integral part of the value of any given firm.

Because we use data from the 1970s to present day, it is necessary to note the change in accounting standards and earnings announcement reliability with the passage of legislation like the Sarbanes-Oxley Act, commonly referred to as SOX.[29] (In essence, if the *quality* and consequential information content of announcements improved sizably with such legislation, investor information processing and market responsiveness would hypothetically decrease as independent investor due-diligence would not be as influential in uncovering "new" or "correct" financial statements.) Cohen, Dey and Lys (2005) document that the informativeness of earnings increased steadily over time, and that there was no significant change in earnings informativeness following the passage of SOX. Further, Cohen et al. find that earnings management increased the absolute informativeness of earnings, but reduced the informativeness for a given earnings surprise, as well as reduced the abnormal return for a given amount of earnings surprise.[30] In totality, this research signals that for poor performing firms, SOX was decipherably

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[29]The Sarbanes-Oxley Act of 2002 (p.107-204, 116 Stat. 745, enacted July 30, 2002) set new or enhanced standards for all U.S. public company boards, management and public accounting firms. It does not apply to privately held companies. The act contains 11 titles, or sections, ranging from additional corporate board responsibilities to criminal penalties, and requires the Securities and Exchange Commission (SEC) to implement rulings on requirements to comply with the new law. Harvey Pitt, the 26th chairman of the Securities and Exchange Commission (SEC), led the SEC in the adoption of dozens of rules to implement the Sarbanes-Oxley Act. Please see sec.gov for further details.

[30] Cohen, Daniel, Dey, Lys (2005). The authors found an increase in earnings management preceding SOX was primarily in poorly performing industries. By examining the fraction of managerial compensation derived from options, the authors find evidence that supports the hypothesis that the opportunistic behavior of managers, primarily related to the fraction of compensation derived from options, was significantly associated with earnings management in the period preceding SOX. Because misrepresented information may have inflated stock price beyond a point reflective of actual earnings, the re-normalizing of price according to other industry (rather than firm) specific news lends weight in explaining a lag in trading volume and general price prior to SOX.

influential in increasing transparency of their economic status, allowing the market to appropriately adjust (downwards in valuation), while stronger performing firms showed little qualitative change in earnings informativeness after the passage of SOX, resulting in little change in market valuation of their stock.

Legislative issues aside, many studies (including those of Ball and Brown (1968), Joy, Litzenberger, McEnally, Watts (1978, 1979); Rendleman, Jones, Latane (1982); Foster, Olsen, Shevlin (1984); and Bernard and Thomas (1990)) have estimated that abnormal returns are largely predicated on previously-announced earnings. According to anticipation surrounding the announcement, earnings announcements which exceed analyst and investor anticipation tend to effectuate positive trends in price per share, while falling below expectations tends to have the opposite effect, although not necessarily identical in magnitude. Furthermore, it is hypothesized that return variances and betas, and therefore expected returns, increase during earnings announcement periods (Stapleton and Subrahmanyam (1979); Epstein and Turnbull (1980); Choi and Salamon (1989)). Previous research has demonstrated anomalous positive abnormal returns during earnings announcements (Chambers and Penman 1984; Penman 1984, 1987; Chari et al. 1988).[31] Ball and Kothari (1991) reported that abnormal returns remain after controlling for risk increases at earnings announcements. The abnormal returns are not related to any over or under-reaction by the market to earnings news

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[31] Because risk was not allowed to vary in event time in this research, it does not adequately distinguish between increased expected returns and true abnormal returns.

(DeBondt and Thaler (1985, 1987); Bernard and Thomas (1989)) because the authors do not condition on the earnings realization.[32]

To suggest that a lag in stock price reaction to earnings news is solely the product of wealth and risk preferences or the time delay in the dissemination information to the market is an oversimplification. Securities analysts' reaction to recent and historical earnings and the consequential "earnings forecast error" also influences stock price behavior. Abarbanell and Bernard (1992) present evidence that analysts' forecasts underreact to recent earnings announcements, which is consistent with the "naïve seasonal random walk forecast" which Bernard and Thomas (1990) explain underscore the anomalous post-earnings-announcement drift.[33] They find that analysts' behavior is a partial explanation for stock price underreaction to earnings announcements and may be unrelated to overreactions of stock price.[34] In addition to these works, DeBondt and Thaler (1990) and Mendenhall (1991)

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[32] A battery of work including Rendleman, Jones and Latane (1987); Freeman and Tse (1989), Bernard and Thomas (1989) have identified that when controlling for quarter "t+1" earnings, over half of the "drift" associated with the quarter "t" earnings is eradicated.[32] As Bernard and Thomas (1990) detail, stock prices do not reflect the entire implications of current earnings on future earnings,[32] and the signs and magnitudes of the three-day reactions are auto-correlated with the structure of earnings, "as if stock prices fail to reflect the extent to which each firm's earnings series differs from a seasonal random walk".[32] Bernard and Thomas (1989) and Freeman and Tse (1989) both find that there is a lagged reaction to quarterly earnings announcements somewhat systematically. Given that a firm announces positive unexpected earnings "for quarter t, the market tends to be positively surprised in the days surrounding for the announcement for quarter t+1." This is consistent with the market failing to properly revise expectations for quarter t+1 earnings upon receipt of the news in quarter t. (Also see Bernard and Thomas (1990), pg 27).

[33] The underreactions in analysts' forecasts are at most only about half as large as necessary to explain the magnitude of the drift.

[34] They also find that the forecasts examined by DeBondt and Thaler (1985, 1987) and Chopra, Lakonishok, and Ritter (1992) which were deemed "extreme" cannot be viewed as overreactions to earnings and are not clearly linked to stock price overreaction. Tests of Analysts' Overreaction/ Underreaction to Earnings Information as an Explanation for Anomalous Stock Price Behavior, Abarbanell and Bernard, The Journal of Finance, Volume XLVII, No. 3, July 1992

explore evidence of inefficient analysts' forecasts which may point to over-reliance of investors on analysts to explain anomalous stock price behavior.[35]

Further, the impact of an earnings announcement on stock price and trading activity is related to more than simply the earning figures reported: it is also a product of the signal effectuated through announcement *timing*. As Ball and Kothari (1991) contend:

> ". . . the timing of an earnings announcement is informative because managers systematically announce good news early and bad news late (Givoly and Palmon (1982); Chambers and Penman (1984); Kross and Schroeder (1984)). This timing theory predicts that average abnormal returns: (1) are positive at the earnings announcement, (2) are negative prior to the announcement, and (3) cumulate to zero by the end of the announcement period. Cross-sectional variation in announcement-period risks and returns is a function of firm size, which is a proxy for the increase in information arrival during earnings announcement periods. The evidence reveals that, after controlling for risk increases, abnormal returns generally are positive and decreasing in firm size."[36]

This anomaly, in application to the functional fixation hypothesis, has been instrumental in furthering the study of earnings announcement impact on stock price when employed in the context of sorting investors into "sophisticated" and "unsophisticated" categories.[37] Although we do not seek to explicitly

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[35] Other notable works and a literary review of analyst forecasts and stock price include Schipper (1991); Ali, Klein and Rosenfeld (1992); Lys and Sohn (1990), Klein (1990), Abarbanell (1991) [The latter three explore analyst underreaction to prior period stock price behavior.]

[36] For the smallest size firms, abnormal returns in the ten days up to and including the earnings announcement are approximately 1.75 percent in the average quarter, or approximately 7 percent over only 40 trading days per year.(Swaminathan, 2000)

[37] Hand (1990) investigated quarterly earnings that included previously announced book gains from debt-equity swaps. "He distinguished between "sophisticated" and "unsophisticated" investors, hypothesizing that only the former correctly comprehend the different implications of swap gains and other components of earnings. He found that abnormal returns increase in a variable representing the interaction between the swap gain and a proxy for the probability that the marginal investor is unsophisticated. are skeptical about both the hypothesis and whether it predicts the observed result. Hand's result is as similar to the puzzling but typical size effect around earnings announcements. It seems unlikely to be due to swap gains, to the sign or

delineate sophisticated investors from their counterparts, these vectors certainly contribute to differences in reaction magnitude we observe in the post-announcement period for large and small firms. [38]   Moreover, there are some forms of risk and error miscalculation which have been unanimously contended to impact all investors, mainly because of the attribution of error to analysts who forecast future earnings metrics. [39]

Even after considering analyst earnings forecast error, timing issues, and over-weighting of previous events to predict future earnings (or similar valuation metrics), there is still a remaining reaction drift. To this point, Tarun and Lakshimanan (2005) explore the cross-sectional implications of the inflation illusion hypothesis for the post-earnings-announcement drift. The inflation illusion hypothesis suggests that generally, stock market investors fail to incorporate inflation in forecasting future earnings growth rates, which makes firms with earnings growths positively correlated to inflation to be undervalued, visa verse. The authors show that the sensitivity of earnings growth to inflation varies monotonically across stocks sorted on standardized unexpected earnings and, consistent with the inflation illusion hypothesis,

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magnitude of earnings information released at the time, to errors in measuring the earnings information released, or to functional fixation." Ball and Kathori (1991)

[38] Sloan (1997) explains "some textbooks recommend that analysts examine accrual and cash-flow components of current earnings when predicting future earnings. Prior research, however, shows no systematic stock price response to the release of information about cash-flow and accrual components of earnings and also no difference in the information content of these two components." Sloan finds that the extent to which the performance of current earnings persists into the future depends on the relative magnitudes of the cash-flow and accrual components of earnings.

[39] Chambers and Penman (1984) provide evidence on the relationship between timeliness of earnings reports and stock price behavior surrounding their release. Beaver (1968, 1971) documents that the variability of stock returns at the time of announcements of firms' annual and interim earnings differ from nonannouncement periods, directionally indicative that more information arrives to the market in periods when earnings reports are released than other periods. Also, evidence provided by Ball and Brown (1968) and Brown and Kennelly (1972) show that information (e.g. accounting) which are indicative of earnings levels may be correlated to a reporting lag. The longer the reporting lag, the more information may be disseminated through other news sources.

show that lagged inflation predicts future earnings growth, abnormal returns, and earnings announcement returns of standardized unexpected earnings-sorted stocks. The reaction magnitude is suggested to be larger for smaller firms than larger firms in our data.

In sum, the noted phenomenon of a post-earnings announcement drift is largely attributable to a delayed price response to information provided through earnings announcements. In this paper, we offer directionally suggestive output that price lags occur for corporate announcement, although those price lags trend towards complete "day zero" reaction.[40]

Dividends

Accounting principles which require stock dividend distributions to be coupled by a decline in the firm's retained earnings support the argument that distributions will only be made when managers do not anticipate the balance of retained earnings to constrict future dividend payments.[41] The information content of the dividends hypothesis asserts that managers use cash dividend announcements to signal changes in their expectations about future prospects of the firm. As mentioned by Pettit (1972) there are several reasons to believe that new and significant information is conveyed by dividend announcements: "First, managers are to some extent restricted as to the kind of public

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[40] The reaction magnitude is suggested to be larger for smaller firms than larger firms in our data

[41] The implications of a stock split or dividend signal more information about firms than simply their recent earnings performance. Firms declaring stock distributions of 25 percent or greater account for them as stock splits, which have no impact on retained earnings. However, distributions of less than 25 percent, which are accounted for as stock dividends and reduce the retained earnings of the company, have been objectively determined to signal managerial confidence in the business to restore retained earnings with future revenues. "In effect, the signal has value because it is costly." This is the retained earnings hypothesis. Peterson, Millar, Rimbey

The authors formulated a test of the effect of accounting choice on legally defined distributable equity (for 1978-1990 data). The results of their test support the hypothesis that the choice of a stock distribution accounting method that reduces legally defined distributable equity conveys more information than one in which distributable equity is not reduced.

statements they can make regarding the future earnings generating ability of the firm. Second, due to random factors reported earnings may vary substantially from long run normalized earnings and market participants may be unable to distinguish these random effects. In light of this, the management may use dividend payments (or a lack of them) as a method of indicating their estimates of the firm's earning power and liquidity." Hence firms tend to increase their dividend payment when there is a high probability that cash flows in the future will be enough to support the higher rate of payment, and will decrease their dividend payment when they think that certain that cash flows are insufficient to support the present dividend rate. [42]

Accounting and financial economics research has sought to explain managers' motivation for declaring large stock distributions and the choice of accounting method. Grinblatt et al. (1984) suggest that stock dividends signal greater future earnings expectations than stock splits. Asquith et al. (1989) posit that stock splits signal the permanence of past earnings increases. Either way, the choice of accounting entry impacts the number of shares outstanding and has economic implications.[43] This information has important effects on trading volume and price reactions on ex-dividend dates. Overall, it has been found that an announcement of an increase in the dividend payment is associated with an increase in stock prices, while announcements reporting dividend payment reductions are associated with a decrease in stock prices (Pettit (1972); Charest (1978); Aharony and Swary (1980); Kwan (1981); Brickley (1983); Aharony and Dotan (1994); and Kaestner and Liu (1998)).

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[42] Shiller (1981) concluded that stock prices are too volatile to be explained by dividend changes
[43] Peterson, Millar, Rimbey (2001)

Stock Splits

On average, stock splits are employed by firms that seek to return the stock price to a 'normal' range, usually after generous growth in earnings. Using fundamental operating performance as a source of the underreaction, Ikenberry and Ramnath (1991) find that splitting firms have "an unusually low propensity to experience a contraction in future earnings" and show a drift of 9% the year following a split announcement, on average. The target price effectuated through a split is related to: 1) market-wide average price; 2) firm-specific price; and 3) industry-wide average price. Explicitly, the price adjustment allows investors with relatively finite means (as compared to institutional or high net worth investors) the ability to buy economically sizeable ("round") quantities of stock. Simultaneously, institutional investors and high net worth individuals may save brokerage fees when securities are priced high because there is a fixed per-share transaction cost of buying and selling securities. Thus, a balance between these classes of investors is determined by the company of interest, according to their specific corporate mandates. The somewhat puzzling fact is that splits do not alter the inherent market value of the firm (they simply result in more shares being issued), yet they persistently and statistically significantly result in increased trading activity both *at and after* the split.[44] The phenomenon of lagged reaction to announcements as discussed in relation to earnings also is seen in response to splits.

Practitioners and academics alike have advanced theories to explain persistence of price reactions associated with splits. Two of the most popular theories are (1) optimal price and (2) signaling. The optimal pricing theory

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[44] Ikenberry, Ramnath (2000)

suggests that firms interested in retaining a heterogeneous and broad stockholder base may adjust stock price by splitting stock or distributing dividends. Baker and Gallagher (1989) found from a survey of managers' motives for stock splits that nearly 99% of the respondents indicated that splits made it easier for small investors to purchase round lots, and nearly 94% believed that splits kept a firm's stock price in an optimal range while increasing the number of stockholders. Grinblatt et al. (1984) suggest a slightly different version of the "optimal price" hypothesis, contending that, "given the cost associated with splits and stock dividends, if managers possess unfavorable information about future growth, they may decide against increasing the number of shares even if they perceive the stock price to be "too high" because they anticipate that, when this information is disclosed, stock prices revert to the norm."[45] In a similar line of thought, Lev (1987) suggests that industry norms for stock prices as well as financial-ratio norms are used in determining whether a stock should be split or not.

The signaling theory, on the other hand, suggests that given asymmetric information between mangers and investors, managers may attempt to convey favorable financial information to the market. Ross (1990) and Leland and Pyle (1994) contend that in order for a signaling device to be valid, there must be a cost associated with sending incorrect signals. "Namely, it should be costly for firms with below-average expected performance to mimic the signaling decisions of those firms enjoying above-average performance." The negative consequences of incorrect signaling have not been deeply explored to

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[45] Ikenberry, Ramnath (2000)

present day, but those studies that have focused on the subject have yielded unclear findings.[46]

Peterson, Millar, Rimbey (1995) note that as Schwartz and Monahan (1986) point out, of 103 stock distributions greater than 25 percent in 1984, only 63 described their distribution as a stock split. Because the CRSP data we employ in this work codes a stock distribution by the actual equity implications of the event, the fact that there may be inappropriate accounting of stock splits as stock dividends by corporate accounting choices is negligible in importance.[47]

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[46] It is interesting to note that Peterson, Millar, Rimbey (1995) showed [through the studies of Schwartz and Monahan (1986)] that of 103 stock distributions greater than 25 percent in 1984, only 63 described their distribution as a stock split. Because the CRSP data we employ in this work codes a stock distribution by the actual equity implications of the event, the fact that there may be inappropriate accounting of stock splits as stock dividends by corporate accounting choices is negligible in importance.

[47] Based on evidence that a large portion of stock splits in previous studies (e.g. Lakonishok and Lev (1987); Klein and Peterson (1989); McNichols), it is plausible that a major portion of the stock splits were actually accounted for as dividends, affecting the equity available for cash dividends. The aforementioned works focus on the positive or negative signaling corporate news announcements have on stock price.*

CHAPTER 3

BASELINE EMPIRICAL SPECIFICATIONS

The simplest way to consider whether corporate news announcements have any effect on stock prices is to examine the prices prior to and directly after the announcements. This comparison implicitly assumes that had the news event not been announced the stock prices after the news event would have been just equal to the prices before the announcement. Because market and economic vectors may cloud the robustness of the results, we employ simple event study methods (Brown and Warner, (1985); Campbell, Lo, and MacKinlay, (1997); Fama, Fisher, Jensen, and Roll, (1969); and MacKinlay, (1997)) that will help us to consider what would have happened to stock prices in the absence of the corporate news.

In order to seek the stock price reaction to corporate news events, we will use the common event study method. Excess returns, cumulative excess returns, cumulative average excess returns, and cumulative median excess returns are all described below.[48] Let t index trading time in days, s indicate the day of the corporate news announcement, and i indicate firms. First, the firm daily stock return, R_{it}, is regressed on R_{mt}, the weighted[49] average market return for day t. This regression

$$R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it} \qquad (1)$$

is estimated for the period s-130 to day s-10[50]. The least-squares estimated coefficients from this regression, $\hat{\alpha}_i$ and $\hat{\beta}_i$, along with the actual values of

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[48] As these yield very similar outcomes, we do not report each in the paper.

[49] These were computed as both value-weighted and equally-weighted returns with little effect on the results. We report results for value-weighted returns in the paper.

[50] Various prediction periods such as s-255 to s-10 were tested with no meaningful effect on the results.

the weighted average stock returns on day t, R_{mt}, allow us to construct the expected return on that day for each firm for each day, $\hat{R}_{it}$, where

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt}.\qquad(2)$$

Using this information on how we expected the stock of firm i at date t to perform we can then construct the abnormal return for firm i on day t as

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} = R_{it} - \hat{R}_{it}\qquad(3)$$

AR_{it} is known as the abnormal (or excess) return of stock i on day t. Intuitively, this abnormal return is the part of the movement in the stock return of firm i that is not correlated with overall movements in stock prices and therefore may reflect unexpected firm-specific factors.

These abnormal returns are calculated for each firm's corporate news event (e.g. dividend announcement, announcement of a stock split, earnings announcement) in the sample. We also calculate cumulative excess returns for several days around (e.g. three days – day s-1 to day s+1) for each event. In addition, we compute the average cumulative abnormal returns (across all events at date s for each event), the average cumulative abnormal return (over the three days across all events), and the median cumulative abnormal return. If the corporate news announcements have no systematic effect on stock returns, then the mean and median returns will not differ significantly from zero.

The t-statistics used to compute whether the mean abnormal returns are different from zero are carefully described in Campbell, Lo, and MacKinlay (1997). The tests are based on the idea that the returns should be equal to zero in the absence of any news that affects the value of the company in question.

The extent to which these returns differ from zero is evidence consistent with the idea that the corporate news events we examine are, in fact, news.[51]

Earnings Result

Earnings announcements are categorized into "good," "neutral," or "bad" news depending on whether the actual announcement of earnings exceeds, exactly meets, or falls short of the last recorded estimate by an analyst in the I/B/E/S data.

Figure 6A highlights the cumulative average excess returns for "good," "neutral," and "bad" news announcements as well as for all announcements together for each of the 38 years of data from 1970-2007. The average three day share price reaction to earnings announcements that we have categorized as "good" news is consistently positive in each of the years of the data. Similarly, earnings announcements categorized as "bad" news are universally associated with negative cumulative average excess returns in each of the detailed years. Not surprisingly, earnings announcements categorized as "neutral" are associated with some slightly positive returns and some slightly negative returns. In addition, there is evidence in Figure 6A that the share price reactions to "good" news have become less "good" (tending toward zero) and that the share price reactions to "bad" news are becoming less "bad" (tending toward zero) over time.

In Figures 6B, 6C, 6D, and 6E we examine share price reactions to "good" news earnings announcements and "bad" new earnings announcements for firms in the top quintile in terms of size (in Figure 6B) and for firms in the bottom quintile in terms of size (in Figure 6C). As shown in Figures 6D and 6E, firms in the bottom quintile in terms of firm size have stronger share price

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[51] Hallock and Mashayekhi, (2006)

reactions (either larger positive for "good" news or larger negative for "bad" news) than firms in the top quintile of the size distribution. Again, this is consistent with the idea that for the past decades, more is known about the larger firms so that any news is less surprising to the market. However, there is no evidence to suggest that "news has become less newsworthy" over the decades in this sample.

It is also worthwhile to consider trading volume around earnings announcements versus normal (in between announcement) trading volume delineated by quintile, as less liquidity characterizes small market-cap companies, and this lack of relative liquidity makes smaller announcements (either positive or negative) effectuate a larger impact on stock price for smaller companies than it does on stock of larger counterparts. In essence, the number of shares that move during earnings season far exceed the number that move out of earnings season, and it takes less investors moving their money to impact bid and ask levels for smaller companies than it does for larger companies. The impact of firm size on excess cumulative returns may be seen in Table 2, where the absolute value of the coefficient on the smaller sized firms is larger than the coefficient on larger firms (-0.342 versus -0.099).

Figure 6A. Share Price Reaction to Earnings Announcements: Mean
Cumulative Excess Returns, 3 Day Window

Notes: Data are collected from the Institutional Brokers Estimate System
(I/B/E/S). These include information on announced earnings per share for
every firm in the sample. We have 454,430 observations on earnings
announcements. The cumulative excess returns were calculated by regressing
the firm daily stock return, R_{it}, on the value-weighted average market return,
R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around s = 0, the event date.
We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day
cumulative abnormal returns are then calculated by adding up the returns for
the three days around the announcement and then averaging over all firms
within each year.

Figure 6B. Share Price Reaction to Earnings Announcements: Mean
Cumulative Excess Returns, 3 Day Window, Firms in the Top Quintile
by Firm Size

Notes: Data are collected from the Institutional Brokers Estimate System
(I/B/E/S). These include information on announced earnings per share for
every firm in the sample. We have 454,430 observations on earnings
announcements. "Top 20" refers to the top 20 percent of firms in the data in a
given year by market value. The cumulative excess returns were calculated by
regressing the firm daily stock return, R_{it}, on the value-weighted average
market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated for a period s-
130 to s-10 where s = 0 is the event date. We compute abnormal returns as
follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then
calculated by adding up the returns for the three days around the
announcement and then averaging over all firms within each year. "Bottom
20" refers to the bottom 20 percent of firms in the data in a given year by
market value.

Figure 6C. Share Price Reaction to Earnings Announcements: Mean
Cumulative Excess Returns, 3 Day Window, Firms in the Bottom
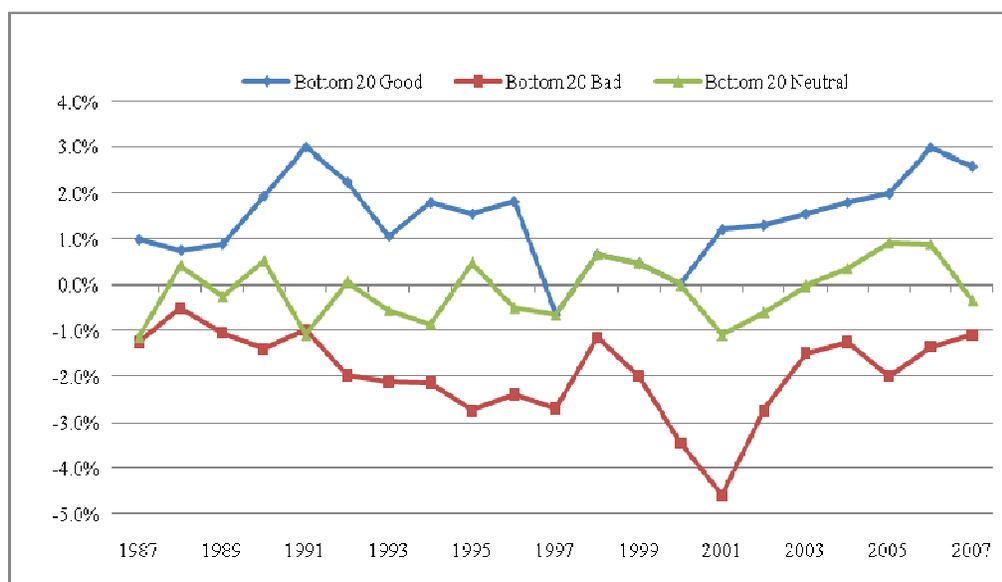Quintile by Firm Size

Notes: Data are collected from the Institutional Brokers Estimate System
(I/B/E/S). These include information on announced earnings per share for
every firm in the sample. We have 454,430 observations on earnings
announcements. "Top 20" refers to the top 20 percent of firms in the data in a
given year by market value. The cumulative excess returns were calculated by
regressing the firm daily stock return, R_{it}, on the value-weighted average
market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated for a period s-
130 to s-10 where s = 0 is the event date. We compute abnormal returns as
follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then
calculated by adding up the returns for the three days around the
announcement and then averaging over all firms within each year. "Bottom
20" refers to the bottom 20 percent of firms in the data in a given year by
market value.

Figure 6D. Share Price Reaction to Good Earnings Announcements: Mean
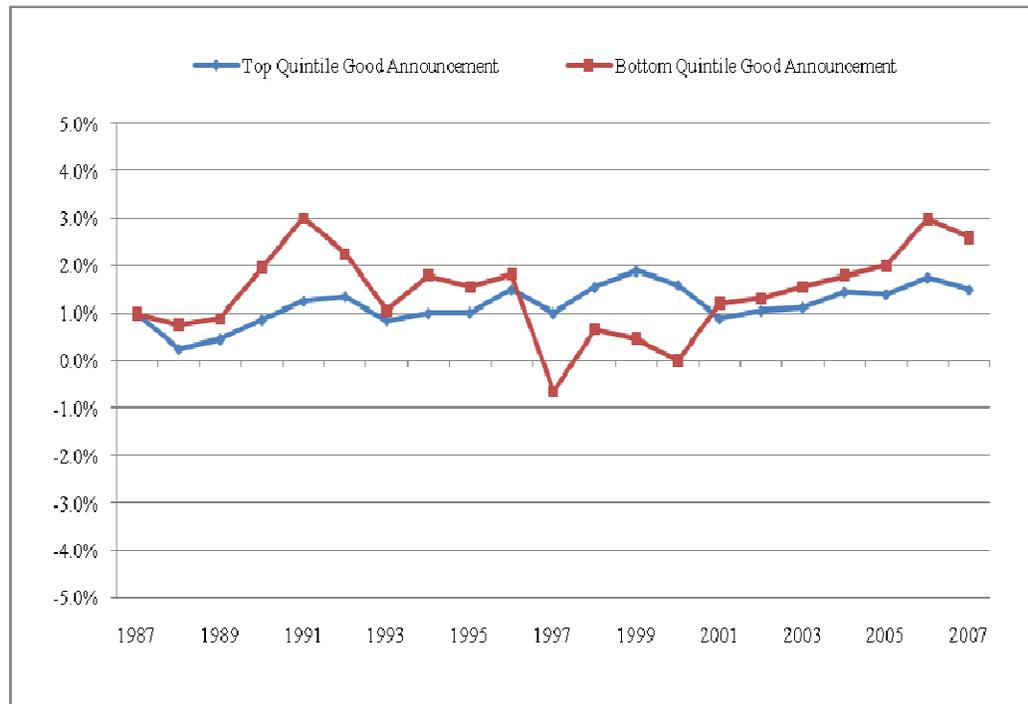Cumulative Excess Returns, 3 Day Window

Notes: Data are collected from the Institutional Brokers Estimate System
(I/B/E/S). These include information on announced earnings per share for
every firm in the sample. We have 454,430 observations on earnings
announcements. An announcement is considered "good" if actual earnings
beat the most recent analyst forecast.

Figure 6E. Share Price Reaction to Bad Earnings Announcements: Mean
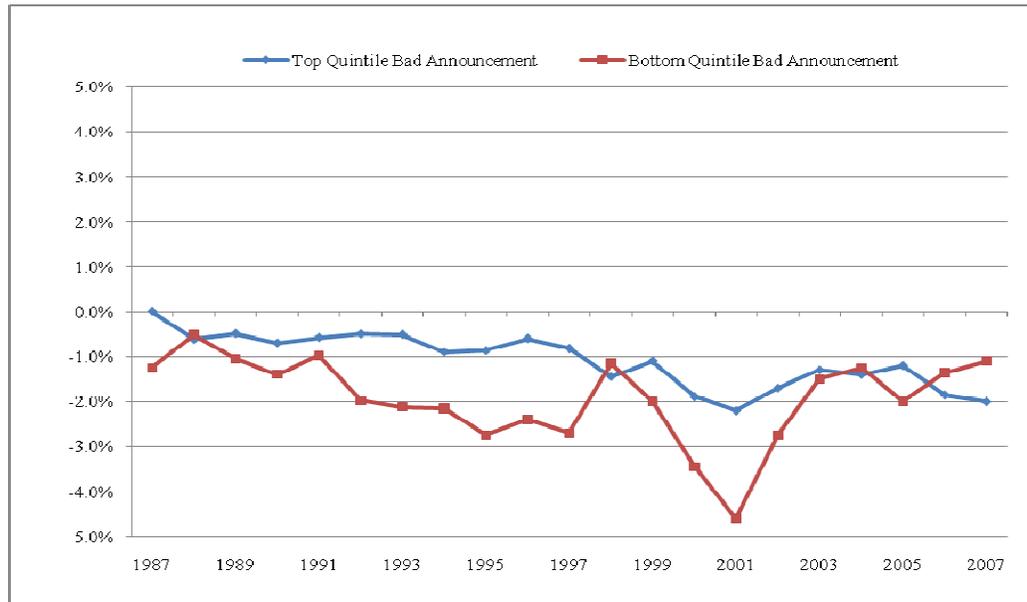Cumulative Excess Returns, 3 Day Window

Notes: Data are collected from the Institutional Brokers Estimate System
(I/B/E/S). These include information on announced earnings per share for
every firm in the sample. We have 454,430 observations on earnings
announcements. An announcement is considered "bad" if actual earnings were
below the most recent analyst forecast.

*Dividend Result***:**

Figure 7A displays the cumulative average excess returns to dividend announcements for each year from 1970 through 2007, inclusive, using a three day event window (days –1, 0, and +1). Varying the event window (e.g. one day, three days, eleven days) does not substantially affect the results.[52] It is unsurprising that the line that represents "all" dividend categories has relatively little variance over the duration of our sample. However, we have categorized the dividend news into "good," "neutral," and "bad" based on whether the firm announcement of dividends is better, the same as, or worse than the previous dividends payment of that firm. We can see in Figure 7A that dividend announcements that we have categorized as being "neutral" (or having no news) have a share price reaction very near zero and have had such a reaction for the entire period of the sample. On the other hand, dividend announcements classified as being "good" (beating the level of the previous dividend payment) have had consistently positive share price reactions. Furthermore, as expected, dividend announcements classified as being "bad" (less than the previous dividend payment) have largely had negative share price reactions.

The pertinent issue, however, is not whether the market reacts positively or negatively to dividend announcements, but rather it is how change in share price reactions to news has altered *over time*. Figure 7A shows that the positive share price reaction to "good" news is less strong (in absolute magnitude) than it once was. Similarly, the share price reaction to "bad" news is less negative than it once was.

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[52] All specifications reported in this paper are using "value-weighted" market returns. We have also re-computed the analysis using "equally-weighted" market returns. There are no substantial changes in the results depending on which of these we use.

Figures 7B and 7C investigate this issue more closely by considering only the largest 20% of firms in CRSP and the smallest 20% of firms in CRSP. Delineating firms in this capacity allows us to see that the share price reaction to dividend announcements in the very largest firms has been closer to zero over time and has declined less dramatically (toward zero) than the share price reaction for firms in the bottom quintile based on firm size. The logic behind this assertion is that the largest firms have always been closely monitored and analyzed. Consequently, there is less "surprise" in dividend announcements for large firms. On the other hand, smaller firms have not been as easy to follow until the proliferation of the internet. It logically follows that the share price reactions to "good" news have become less positive for smaller firms and the share price reaction to "bad" news has become less negative for smaller firms. The evidence in Figures 7B and 7C is consistent with these assertions.

Figure 7A. Share Price Reaction to Dividend Announcements: Mean
Cumulative Excess Returns, 3 Day Window

Mean Cumulative Abnormal Returns for Good, Bad and Neutral Dividend Categories ((-1,+1))

Notes: Data on dividend announcements are collected from the Center for
Research in Security prices (CRSP) at the University of Chicago. Dividend
announcements were collected from eight categories of U.S. cash dividends:
1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with
missing announcement dates were dropped. The cumulative excess returns
were calculated by regressing the firm daily stock return, R_{it}, on the value-
weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is
estimated around $s = 0$, the event date. We compute abnormal returns as
follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then
calculated by adding up the returns for the three days around the
announcement and then averaging over all firms within each year.   A dividend
announcement is considered "bad" news if the firm's announced cash dividend
amount is less than the firm's previous cash dividend payment. It is
considered "good" news if the announced cash dividend payment is more than
the previous cash dividend payment. A dividend payment is considered
"neutral" if the announced cash dividend is equal to the previous cash dividend
payment.

Figure 7B. Share Price Reaction to Bad Dividend Announcements: Mean Cumulative Excess Returns, 3 Day Window, Bottom versus Top Quintile Firms

Notes: Data on dividend announcements are collected from the Center for Research in Security prices (CRSP) at the University of Chicago. Dividend announcements were collected from eight categories of U.S. cash dividends: 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with missing announcement dates were dropped. The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around s = 0, the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement and then averaging over all firms within each year. A dividend announcement is considered "bad" news if the firm's announced cash dividend amount is less than the firm's previous cash dividend payment.

Figure 7C. Share Price Reaction to Good Dividend Announcements: Mean
Cumulative Excess Returns, 3 Day Window, Bottom versus Top Quintile
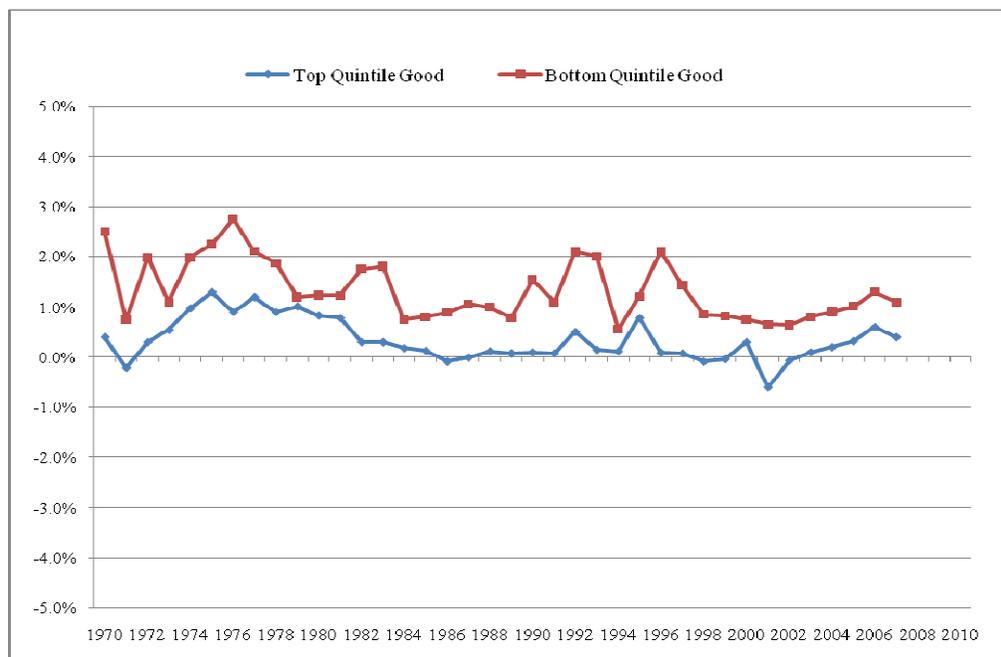Firms

Notes: Data on dividend announcements are collected from the Center for
Research in Security prices (CRSP) at the University of Chicago. Dividend
announcements were collected from eight categories of U.S. cash dividends:
1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with
missing announcement dates were dropped. The cumulative excess returns
were calculated by regressing the firm daily stock return, R_{it}, on the value-
weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is
estimated around $s = 0$, the event date. We compute abnormal returns as
follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then
calculated by adding up the returns for the three days around the
announcement and then averaging over all firms within each year. It is
considered "good" news if the announced cash dividend payment is more than
the previous cash dividend payment.

Figure 7D. Share Price Reaction to Neutral Dividend Announcements: Mean
Cumulative Excess Returns, 3 Day Window, Firms in the Top Quintile by
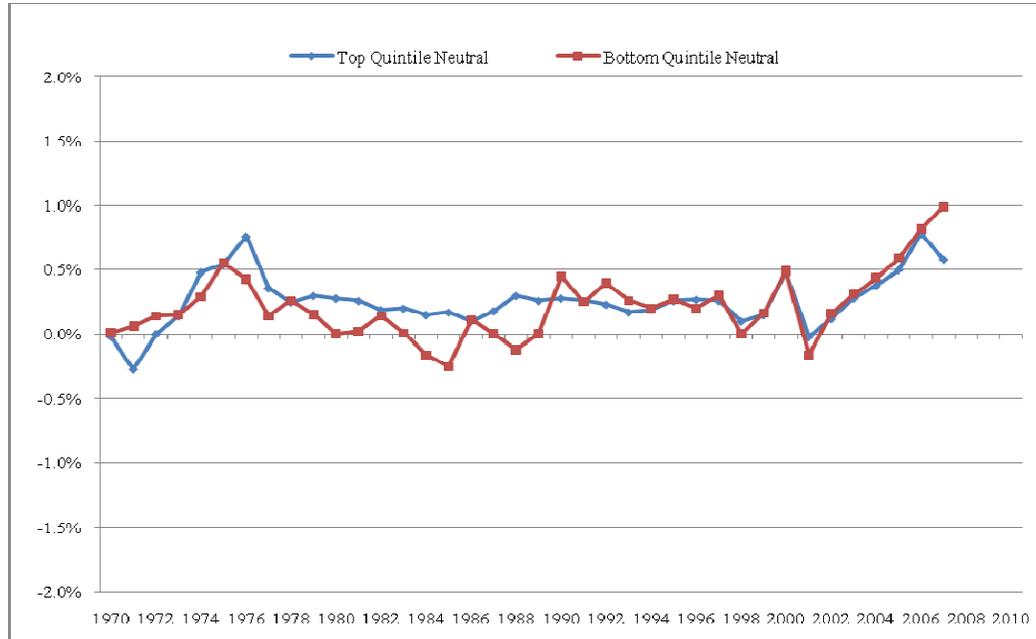Firm Size

Notes: Data on dividend announcements are collected from the Center for
Research in Security prices (CRSP) at the University of Chicago. Dividend
announcements were collected from eight categories of U.S. cash dividends:
1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with
missing announcement dates were dropped. The cumulative excess returns
were calculated by regressing the firm daily stock return, R_{it}, on the value-
weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is
estimated around s = 0, the event date. We compute abnormal returns as
follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then
calculated by adding up the returns for the three days around the
announcement and then averaging over all firms within each year. A dividend
payment is considered "neutral" if the announced cash dividend is equal to the
previous cash dividend payment.

Figure 7E. Share Price Reaction to Dividend Announcements: Mean Cumulative Excess Returns, 3 Day Window, Firms in the Top Quintile by Firm Size
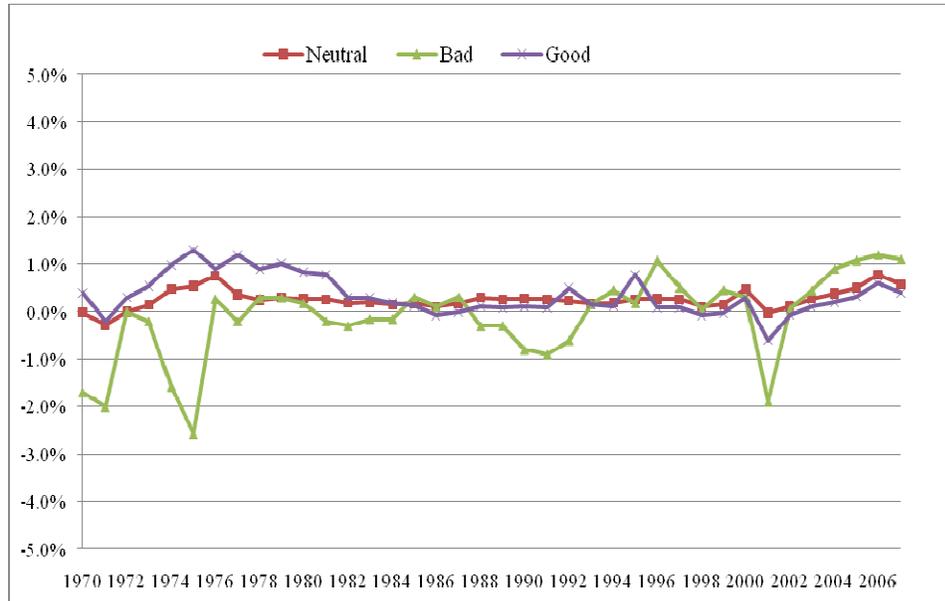

Notes: Data on dividend announcements are collected from the Center for Research in Security prices (CRSP) at the University of Chicago. Dividend announcements were collected from eight categories of U.S. cash dividends: 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with missing announcement dates were dropped. The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around s = 0, the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement and then averaging over all firms within each year. A dividend announcement is considered "bad" news if the firm's announced cash dividend amount is less than the firm's previous cash dividend payment. It is considered "good" news if the announced cash dividend payment is more than the previous cash dividend payment. A dividend payment is considered "neutral" if the announced cash dividend is equal to the previous cash dividend payment.

FIGURE 7F. Share Price Reaction to Dividend Announcements: Mean Cumulative Excess
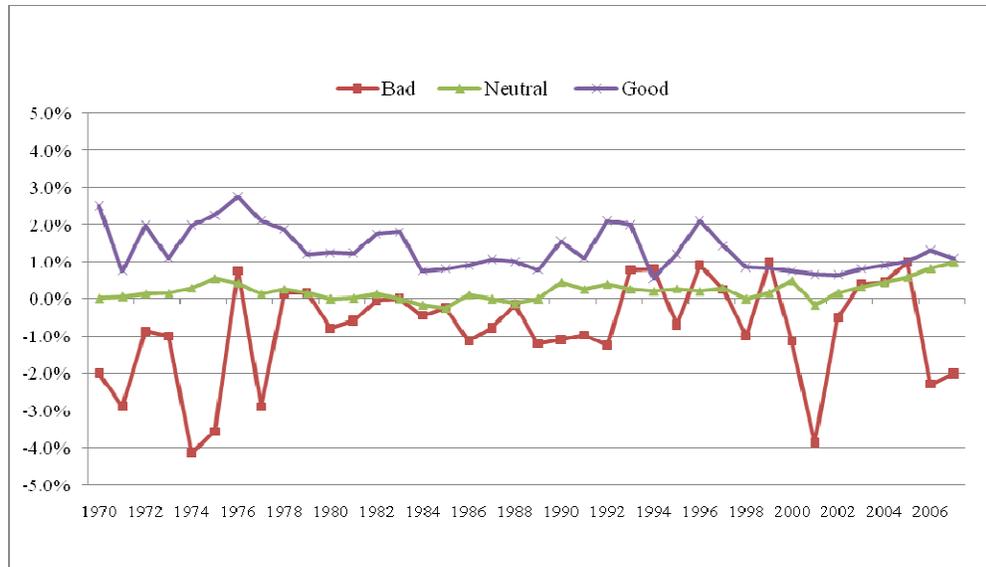Returns, 3 Day Window, Firms in the Bottom Quintile by Firm Size

Notes: Data on dividend announcements are collected from the Center for Research in Security prices (CRSP) at the University of Chicago. Dividend announcements were collected from eight categories of U.S. cash dividends: 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with missing announcement dates were dropped. The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated for a window around s = 0, the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement and then averaging over all firms within each year. A dividend announcement is considered "bad" news if the firm's announced cash dividend amount is less than the firm's previous cash dividend payment. It is considered "good" news if the announced cash dividend payment is more than the previous cash dividend payment. A dividend payment is considered "neutral" if the announced cash dividend is equal to the previous cash dividend payment. "Top 20" refers to the top 20 percent of firms in CRSP in a given year by market value. "Bottom 20" refers to the bottom 20 percent of firms in CRSP in a given year by market value.

Split Result

In analyzing split data, our focus is centered on the cumulative average excess return in response to stock splits over the period from 1970 – 2007. Splits are divided into size categories and then are examined to consider whether the share price reaction has tended toward zero over time. Figure 8A displays the cumulative average excess returns to stock split announcements for each year from 1970 – 2007, inclusive, using the three-day event window (-1, 0, and +1). Although the share price reactions to stock split announcements are generally positive, there does not seem to be any clear trend toward zero over time. This is inconsistent with the "news is less newsworthy" hypothesis.

Figure 8B repeats this analysis on only a subset of the data. In particular, this figure only considers very large and very small firms. Firms in the top quintile "top 20" and firms in the bottom quintile "bottom 20" are compared. As expected, on average, smaller firms have a universally larger share price reaction to stock split news than do larger firms. This is for the same reasoning we discussed in the section on stock dividend announcements. (Information released on large firms is not as much of a surprise, on average, since these larger firms are more closely monitored.) Simultaneously, Figure 8C does not provide evidence in favor of the "news is less newsworthy" hypothesis. Here, it is evident that the share price reaction to stock split announcements for smaller firms has not tended toward zero (relative to that for large firms) over time.

Figure 8A. Share Price Reaction to Stock Split Announcements: Mean
Cumulative Excess Returns, 3 Day Window
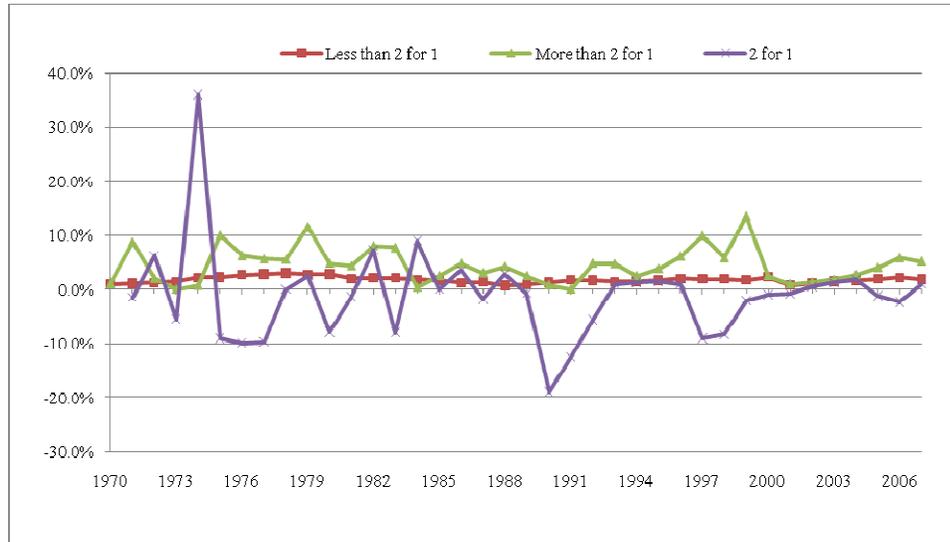

Notes: Data on stock splits are collected from the Center for Research in
Security Prices (CRSP) at the University of Chicago. Our data include 24,479
stock split announcements. The cumulative excess returns were calculated by
regressing the firm daily stock return, R_{it}, on the value-weighted average
market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated for a period
where s = 0 is the event date. We compute abnormal returns as follows:
$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by
adding up the returns for the three days around the announcement and then
averaging over all firms within each year. "Facpr<0" refers to stock buybacks,
"0<facpr<1" is for stock splits with split ratios less than 2:1, facpr=1 is for 2:1
stock splits, and facpr>1 is for stock splits with split ration greater than 2:1.

Figure 8B. Share Price Reaction to Stock Split Announcements: Mean Cumulative Excess Returns, 3 Day Window, Includes only Firms in Top Quintile and Firms in Bottom Quintile by Firm Size

Notes: Data on stock splits are collected from the Center for Research in Security Prices (CRSP) at the University of Chicago. Our data include 24,479 stock split announcements. The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated for a period where s = 0 is the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement and then averaging over all firms within each year. "Facpr<0" refers to stock buybacks, "0<facpr<1" is for stock splits with split ratios less than 2:1, facpr=1 is for 2:1 stock splits, and facpr>1 is for stock splits with split ration greater than 2:1. "Top 20" refers to the top 20 percent of firms in CRSP in a given year by market value. "Bottom 20" refers to the bottom 20 percent of firms in CRSP in a given year by market value.

CHAPTER 4

HOW NEWSWORTHY ARE ANNOUNCEMENTS?

What can be Inferred from the Distribution of Share Price Reactions About Newsworthiness?

After examining the three day cumulative average excess returns to corporate news announcements, it is reasonable to consider more complicated aspects of the distribution of returns to corporate news. For example, if we thought that corporate news was less newsworthy, then not only should the mean tend toward zero, but the *variance* should decline as well. (This is to say that the daily differences between opening and closing prices would decline in absolute value for any given firm regardless of whether the day under examination was an announcement day or not.)

Figures 9A, 9B, and 9C summarize an investigation of the standard deviation of the three day cumulative excess returns by year for dividend announcements, earnings announcements, and stock split announcements (respectively). It is clear in each of the cases of dividends and splits the variance is not declining over time. This analysis may be employed for other measures of dispersion in the data (not reported in the figures). This may be executed, for example, for the 90 – 10 percent differential or for the 75 – 25 percent differential (inter-quartile range).[53] These trends are similar to those reported in Figures 9A and 9C.

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[53] E.g., in the dividend data, the 90 – 10 percent differential in roughly 8 to 10 percent and flat over time and the 75 – 25 percent differential is roughly 5 to percent and flat over the 37-year period. For earnings announcements, the 90 – 10 percent differential is between 10 and 15 percent from 1984 through 1996 and goes up to roughly 24 percent by 2000. Similarly, the 75 – 25 percent differential is between 5 and 6 percent from 1984 through 1996 and rises to over 10 percent by 2000. For stock splits, the 90 – 10 percent differential is on the order of 12 to 15 percent from 1970 through 1998, with a slight decline over time and then goes up in the last few years to roughly 25 percent. The 75 – 25 percent differential is roughly five to six percent from 1970 through 1998 with a slight decline over time and then rises in the last few years to about 10 percent.

An interesting trend emerges in the standard deviation of three day cumulative excess returns for earnings announcements (Figure 9B) inasmuch as there has been a rising (and then stabilizing) mean cumulative excess return in the 2000s. A possible explanation to this phenomenon lies in the proliferation of financial engineering and coinciding mass volume movements in stock trades surrounding earnings announcement news. Another explanation for this trend centers around the increasing number of independent traders who operate apart from large banks and institutions. With more trading volume coming from a potentially "uninformed" constituency, the standard deviation of three day returns would hypothetically increase.[54]

To further examine the entire distribution of the three day share price reaction, we plot kernel density estimates of the distribution of the three day returns for dividend announcements, earnings announcements, and stock split announcements (in Figures 10A, 10B, 10C respectively). As in considering the estimates of the standard deviation above, the aim here is to investigate whether the distribution is less "spread out" (with, therefore, a higher central peak) in the later period. This would be consistent with the "news is less newsworthy" hypothesis.

There is no evidence for this in Figure 10, which plots the kernel density estimates for the distributions of dividend announcements for the 1970s, 1980s, 1990s, and 2000s separately. In fact, the distribution for the 1990s seems to be to the right of that from the 1970s and to the left of the distribution from the 1980s. The spread for the 1990s seems to similarly fall between that from the other two decades.

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[54] This will be further discussed in the summary section (IX)

The earnings data are only available from 1984 – 2007 so we separate 1984 – 1989; 1990 – 2000 and 2001 – 2007. In 11A it is also not the case that the most recent group (the 1990s) is less spread out than the older (1980s) group. In fact, the 1990s are much more spread out. This is also true in 11B where the distribution of three day returns to stock split announcements is not less spread out in the most recent period. Therefore, none of the kernel density estimates evidence supports the "news is less newsworthy" idea.

Figure 9A. Standard Deviation of Three Day Returns for Dividend Announcements Over Time
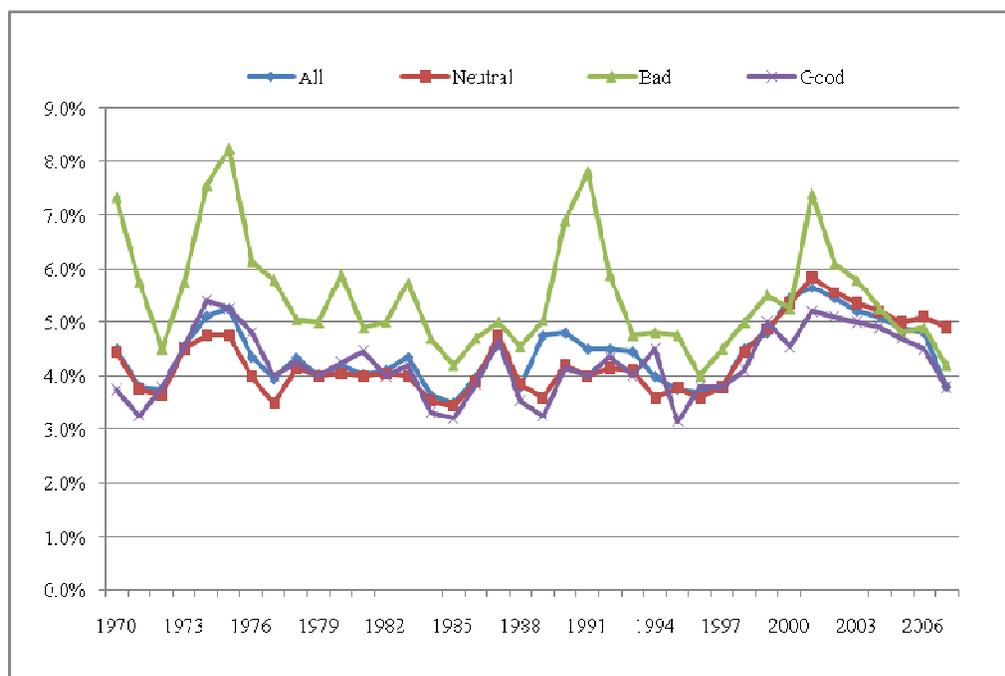
Notes: The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement. Rather than averaging the three days returns within year, these figures simply compute the standard deviations each year.

Figure 9B. Standard Deviation of Three Day Returns for Earnings Announcements Over Time
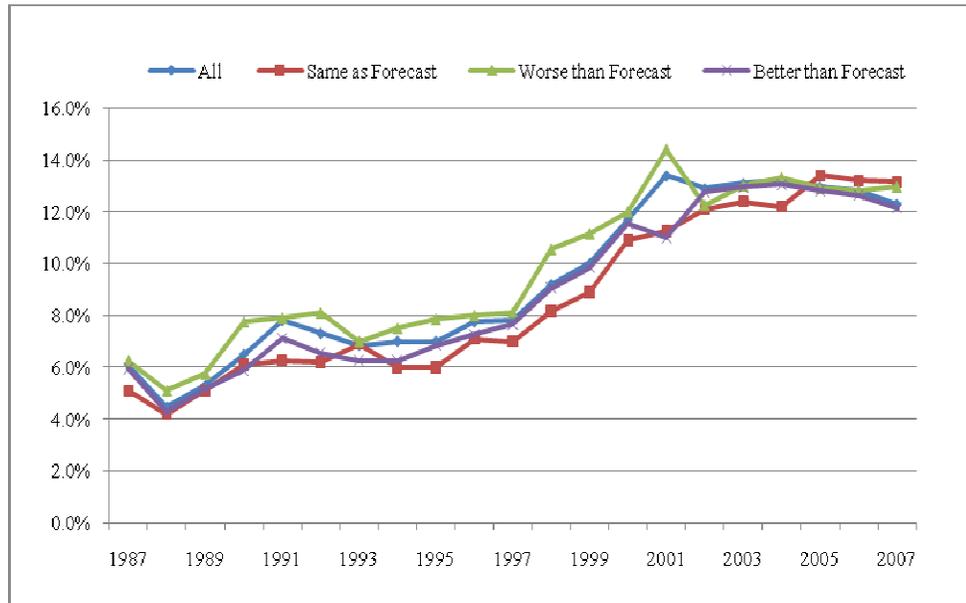
Notes: The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement. Rather than averaging the three days returns within year, these figures simply compute the standard deviations each year.

Figure 9C. Standard Deviation of Three Day Returns for Split Announcements
Over Time
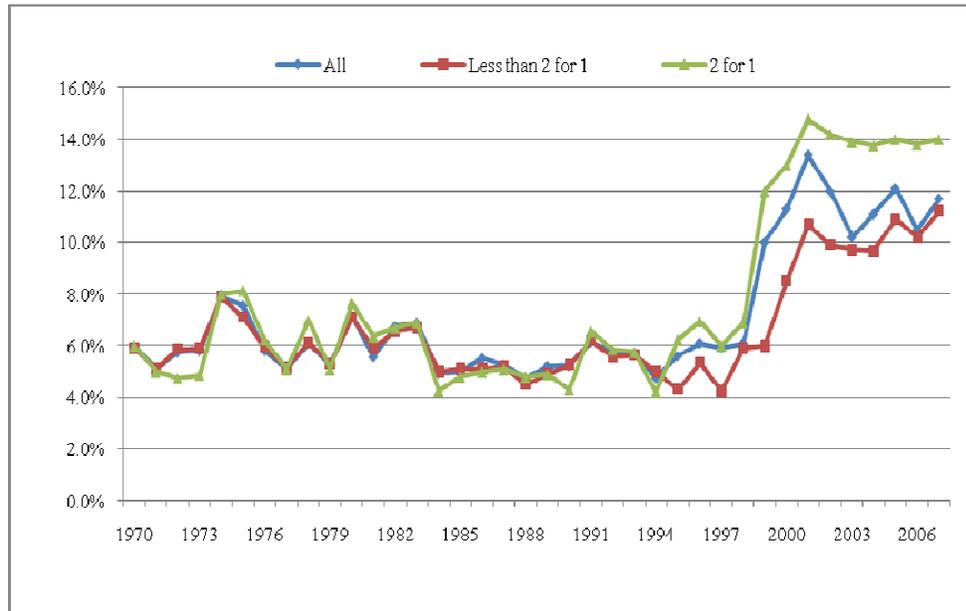
Notes: The cumulative excess returns were calculated by regressing the firm
daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The
regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around the event date. We compute
abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal
returns are then calculated by adding up the returns for the three days around
the announcement. Rather than averaging the three days returns within year,
these figures simply compute the standard deviations each year. In figure 9C,
we report information for all splits, for "0<facpr<1" (stock splits with split
ration less than 2:1), and "facpr=1" (stock splits with split ration equal to 2:1".
Splits with a ratio greater than 2:1 are not reported since there are so few in the
data.

Figure 10A. Distribution of Cumulative Excess Returns by Decade – Job Loss Announcement
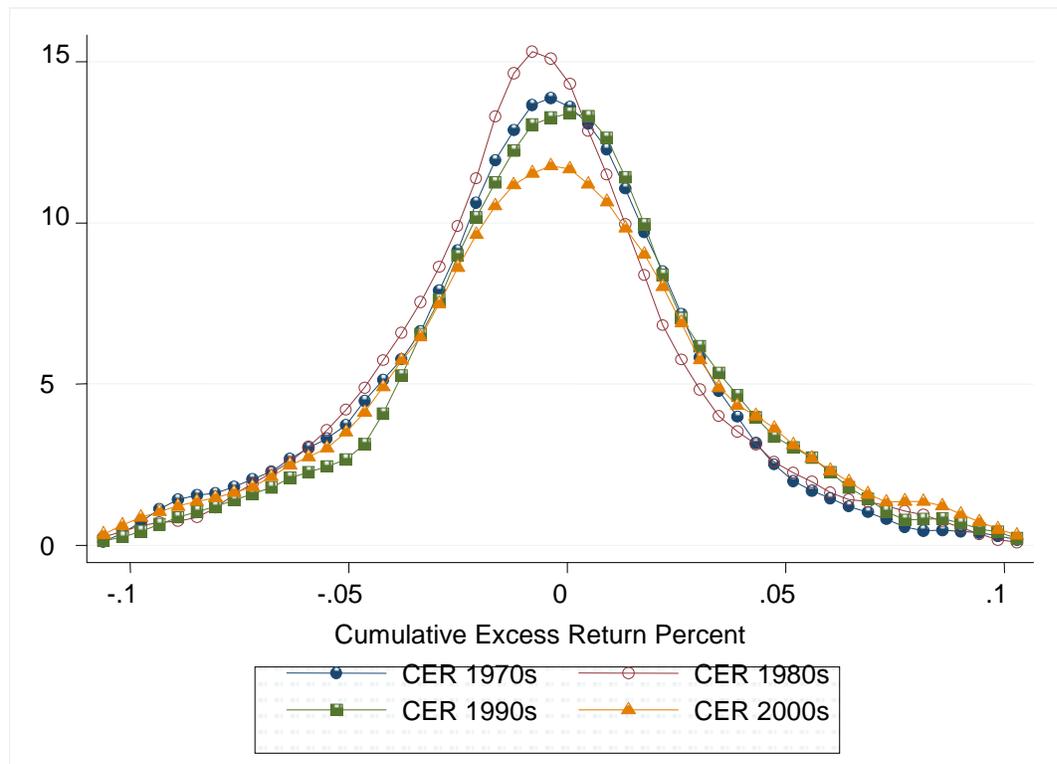
Source: Calculations by the author using announcement information from the *Wall Street Journal* and data stock price data from the Center for Research in Security Prices (CRSP). Note: there is not more probability mass between 0 and 0.05 and thus there is little movement in control tendency reduction in the likelihood of negative cumulative excess returns.

Industry Controls on Announcement Type and Newsworthiness Impact

To appropriately address potential explanations for differences in reactions to announcements (whether splits, dividends, earnings or layoffs over time), we must consider the impact industrial identity has on the variance in trading activity in any given firm. This is to say that characteristics and trends that impact stock activity for any given firm or subset therein may be less reflective of firm performance and the consequential or coinciding stock activity, and more reflective of news and events impacting the broader industry to which it belongs. A major issue which arises here is consolidation within industries and the impact such consolidation has had on the market cap, asset size, and general performance of competitors. When many firms compete in the same space, any news that impacts (positively or negatively) that given firm also indirectly impacts peer firms. The direction of the impact on news from competing firms varies on a case-by-case basis, as the market does not function as a pure zero-sum game wherein any firm that "wins" necessarily makes other firms "lose". As an example, positive news in the banking sector which reflects increased mandates for innovative new products which all banks may successfully produce may result in industry-wide good performance which analysts could not foresee if at the time of their forecast the mandates were not publicly known, while positive news just for Goldman Sachs (in the form of higher than predicted investment banking activity) may represent a lost sale to Morgan Stanley (which would impact a lower bottom-line earnings number. Although this is just a microcosmic example, as Figure 9B details, the convergence within two percentage points of the standard deviation of three day returns for all earnings announcements over time from 2000 to 2007 suggests that the actual earnings announcements and the forecasted earnings,

whether worse than, better than or the same as analysts forecasts share magnitude of deviation from actual cumulative excess returns. Figure 9C similarly reflects this trend in increasing standard deviation from the cumulative excess returns from 2000 to 2007.

Addressing Industry Issues in the Data

While issues surrounding the size of firms are addressed in Figures 6,7 and 8, there are outstanding questions in regards to (1) the industry in which firms are categorized by CRSP and (2) COMPUSTAT and the potential impact belonging to different industries may have on trading volatility over time. To address these issues, we turn to industry data by firm.

COMPUSTAT compiles industry by both an industry classification code system which identifies a company's main line of business as well as firm specific covariates which define firms according to their EPS (basic, diluted and from operations), Net Income and Cash/ Cash Equivalents. The industry-specific code is based on the SIC (Standard Industrial Classification) code created by the U.S. Census Bureau. [55] There are 381 DNUM industry categories, although several separate industry categories may be aggregated into a larger umbrella, (e.g. Agriculture Production being inclusive of livestock, agricultural services, and farm production.) After sorting the data by market cap and company income vectors, the industries that emerge as the largest include: Financial Services, Pharma, Computer and Software, Telecommunications, Motor Vehicles, and Natural Resource Companies.

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[55] The Census Bureau is replacing SIC codes with NAICS (North American Industry Classification System) codes. Further, Standard & Poor's and Morgan Stanley have developed GICS (Global Industry Classification System) codes. A company's industrial classification can change from time to time, but the DNUM in Compustat data files generally reflects only the current classification, not the history of a company's industry affiliations.

While intra-industry firm size may vary, on average, publicly traded competitors in each category have relatively similar market caps.[56] Industry controls were added in for regressions (4) to (7) in Tables 2, 3 and 4.[57]

As outlined in Table 2, summary statistics of regressions with a dependent variable of excess cumulative returns and controls for size percentile, decade, industry dummies, and dummies for positive, neutral and bad earnings show a discernable trend between firm size and excess returns. The estimated coefficient on firms in the 20-40 percentile (by size) is larger than the estimated coefficient on firms in the 40-60 percentile (-0.342 as compared to -0.213), and is reflected to the top quintile of firms in the sample by size. (The baseline of comparison is firms belonging to the smallest quintile, and in absolute terms the incremental impact of a change in firm size on cumulative excess returns decreases as the firm size increases). Compared to the 1980s (omitted from decade category), the estimated coefficient on decade increased in absolute amount, but the reaction magnitude (in either direction, negative or positive) to good earnings announcements and bad earnings announcements did not decrease in magnitude over time, suggesting "news is still newsworthy." Furthermore, an F-test of the hypothesis that the structure of the model is the same across the decades apart from a shift in the intercept cannot be rejected at the 5% significance level (p value = 0.325). Thus, the constrained model cannot be rejected against the unconstrained model shown in the different earnings types.

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[56] Market caps may be determined from the data by multiplying the number of shares outstanding by the price of the stock in any given timeframe.
[57] Please see Section VII for additional suggestions for utilizing industry data in future work.

As seen in Table 3, which details a similar process for dividends as was done for earnings, there is a trend in the cumulative excess returns and the size quintile data. The estimated coefficient on firms in the 20-40 percentile (by size) is larger than the estimated coefficient on firms in the 40-60 percentile (0.145 as compared to 0.130), and is reflected to the top quintile of firms in the sample by size. Compared to the 1970s (omitted from decade category above), the estimated coefficient on decade decreased in absolute amount, as did the coefficients on good and bad dividend announcements, suggesting that less cumulative excess return can be explained by announcements over time, regardless of whether the news is positive or negative for corporate outlook. An F-test of the hypothesis that the structure of the model is the same across the decades apart from a shift in the intercept cannot be rejected at the 5% significance level (p value = 0.405). Thus, the constrained model cannot be rejected against the unconstrained model shown in the different dividend types.

Lastly, in Table 4, with considerations of split data by industry, size and year factors, the estimated coefficient on firms in the 20-40 percentile (by size) is larger than the estimated coefficient on firms in the 40-60 percentile (0.245 as compared to 0.210), and is reflected to the top quintile of firms in the sample by size. The baseline of comparison is firms belonging to the smallest quintile, and in absolute terms the incremental impact of a change in firm size on cumulative excess returns decreases as the firm size increases). That said, the predicted trend of a declining coefficient on years from 1970 on the cumulative excess returns is not reflected in the data, suggesting that split announcements still have impacts on stock trading similar to otherwise novel news. The constrained model cannot be rejected against the unconstrained

model shown in the different split types, as an F-test of the hypothesis that the structure of the model is the same across the decades apart from a shift in the intercept cannot be rejected at the 5% significance level (p value = 0.315).

TABLE 1. Summary of Share Price Reactions to Corporate News: Mean Cumulative Excess Returns, 3 Day Window

	Layoffs	Dividends		Splits	Earnings	
		Good News	Bad News		Good News	Bad News
Expected Overall Sign	varies	> 0	< 0	$+$	> 0	< 0
Estimated Overall Sign	varies	> 0	< 0	$+$	> 0	< 0
Expected Trend from Past to Present	less (-)	less (+)	less (-)	smaller in abs. value	less (+)	less (-)
Estimated Trend from Past to Present	less (-)	less (+)	less (-)	0	more (+)	more (-)
Expected |larger| effects for small firms	yes	yes		yes		yes
Estimated |larger| effects for small firms	yes	yes		yes		yes
Expected |larger| effect for smaller firms controlling for industry	yes	yes		yes		yes
Estimated |larger| effect for smaller firms controlling for industry	yes	yes		yes		yes

Note: This table summarizes some of the main results in the paper using the four different types of data: layoff announcement data, dividend announcement data, data on stock split announcements, and data on earnings announcements. Data on dividend announcements are collected from the Center for Research in Security Prices (CRSP) at the University of Chicago. Dividend announcements were collected from eight categories of U.S. cash dividends: 1232, 1242, 1248, 1252, 1258, 1272, 1278, and 1292. Observations with missing announcement dates were dropped. A dividend announcement is considered "bad" news if the firm's announced cash dividend amount is less than the firm's previous cash dividend payment. It is considered a "good" announcement if the announced cash dividend payment is more than the previous cash dividend payment. A dividend payment is considered "neutral" if the announced cash dividend is equal to the previous cash dividend payment. Data on stock splits are collected from the Center for Research in Security Prices (CRSP) at the University of Chicago. A stock split is coded by a "5" in the first of a four digit distribution code. Our data include 43,259 stock split announcements.

Earnings data are collected from the Institutional Brokers Estimate System (I/B/E/S). These include information on announced earnings per share for every firm in the sample. We have 454,430 observations on earnings announcements. We were able to match the announcements with additional data in I/B/E/S on the most recent analyst forecast of earnings for each firm in question. News is considered "good" if the actual announcement of earnings is higher than the most recent analyst forecast. News is considered "neutral" if the actual announcement is exactly the same as the most recent analyst forecast. News is considered "bad" if the most recent forecast is higher than the actual announcement." Large firms" refers to the top 20 percent of firms in CRSP in a given year by market value. "Small firms" refers to the bottom 20 percent of firms in CRSP in a given year by market value.

The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are the sum of the returns for the three days around the announcement and then averaging over all firms within each year.

It was expected that overall sign of the share price reaction to layoffs would vary (positive or negative) according to firm size and time of layoff. As Hallock and Mashayekhi (2006) similarly found, the data support this.

According to the "news is no longer newsworthy" hypothesis, we expected to find a less negative reaction to layoff announcements over time. This was supported by the data. For dividend announcements, a positive reaction to "good" news and a negative reaction to "bad" news was found. We expected and found a less positive reaction over time to "good" dividend news and a less negative reaction to "bad" dividend news. We expected to observe a positive reaction to stock splits. The data supports this predicted outcome.

The anomaly to the data is in regards to splits and the trend in earnings announcements from past to present -- according to the "news is no longer newsworthy" hypothesis, we expected to see a smaller (in absolute value) reaction to the announcement of splits, but instead found no effect. We expected to find that the market reacted positively to "good" earnings news and negatively to "bad" earnings news. The data support both propositions. We expected to find a less positive reaction to "good" earnings news over time (but found the opposite). We also expected to find a less negative reaction to earnings news over time (but found the opposite). In the case of each of the four news types, we estimated larger (in absolute value) reactions to news from smaller firms, as expected.

Table II: Regression Analysis of Cumulative Excess Returns, 3-day Window: Earnings

		All	All	All	All	All	Good Earnings	Neutral Earnings	Bad Earnings
		(1)	(2)	(3)	(4)	(4.5)	(5)	(6)	(7)
Size Quin-tile	20-40	-0.342 (0.103)		-0.245 (0.019)	-0.233 (0.008)		0.221 (0.020)	-0.189 (0.009)	-0.199 (0.015)
	40-60	-0.213 (0.098)		-0.203 (0.013)	-0.190 (0.009)		0.182 (0.011)	-0.099 (0.010)	-0.098 (0.012)
	60-80	-0.101 (0.076)		-0.197 (0.011)	-0.181 (0.010)		0.086 (0.002)	-0.073 (0.009)	0.055 (0.007)
	80-100	-0.099 (0.022)		-0.076 (0.009)	-0.055 (0.004)		0.020 (0.013)	-0.017 (0.007)	-0.011 (0.010)
Dec-ade	1990s	------	-0.009 (0.021)	-0.011 (0.015)	--------	-------	-------	------	------
	2000s	------	-0.016 (0.091)	-0.082 (0.012)	--------	-------	-------	------	------
	Each Year					Yes	Yes	Yes	Yes
	Industry					Yes	Yes	Yes	Yes
	Constant	-0.011 (0.033)	-0.005 (0.017)	0.016 (0.002)	0.022 (0.00554)	0.007 (0.006)	0.012 (0.011)	0.009 (0.010)	-0.006 (0.009)
	R^2	0.005	0.008	0.013	0.015	0.011	0.014	0.012	0.016
	N	454,430	454,430	454,430	454,430	454,430	190,861	1,690	261,879
	p-value Decade=0	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
	p-value Size=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: Standard errors are reported in parentheses. Observations are weighted by the inverse of the standard error of the cumulative excess return. The base category consists of the return for the smallest quintile of companies as delineated by market cap and the cumulative excess returns in the 1980s as we are interested in seeing the impact of time on cumulative excess returns. Changing the measure of company size as delineated by consideration of cash and cash equivalents, inventories, and short-term investments does not have a notable effect on firms in each size quintile. Industry parameters are specified by identifiers in Compustat. (Multiple companies may be described by the same code.)

There is a discernable trend reflected in the cumulative excess returns and the size quintile data. The estimated coefficient on firms in the 20-40 percentile (by size) is larger than the estimated coefficient on firms in the 40-60

percentile (-0.342 as compared to -0.213), and is reflected to the top quintile of firms in the sample by size. (Note that the baseline of comparison is firms belonging to the smallest quintile, and in absolute terms the incremental impact of a change in firm size on cumulative excess returns decreases as the firm size increases). Compared to the 1980s (omitted from decade category above), the estimated coefficient on decade increased in absolute amount, but the reaction magnitude (in either direction of negative or positive) to good earnings announcements and bad earnings announcements did not decrease in magnitude over time, suggesting "news is still newsworthy."

An F-test of the hypothesis that the structure of the model is the same across the decades apart from a shift in the intercept cannot be rejected at the 5% significance level (p value = 0.325). Thus, the constrained model cannot be rejected against the unconstrained model shown in the different earnings types.

Regression equations, where dependent variable is cumulative excess returns:
    (1) Size percentile
    (2) Decade
    (3) Size percentile, decade
    (4) Size percentile, decade, and dummy for each year
    (5) Size percentile, decade, dummy for each year if earnings were good
    (6) Size percentile, decade, dummy for each year if earnings were neutral
    (7) Size percentile, decade, dummy for each year if earnings were bad
    The industry controls are applied to equations (5) (6) and (7)

Table III: Regression Analysis of Cumulative Excess Returns, 3-day Window: Dividends

		All	All	All	All	All	Good Dividends	Neutral Dividends	Bad Dividends
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size Quintile	20-40	0.145 (0.023)		0.132 (0.024)	0.103 (0.017)	0.092 (0.021)	0.099 (0.035)	0.012 (0.010)	-0.010 (0.009)
	40-60	0.130 (0.010)		0.114 (0.015)	-0.101 (0.019)	0.098 (0.020)	0.082 (0.022)	-0.033 (0.013)	-0.021 (0.011)
	60-80	0.101 (0.009)		0.098 (0.010)	0.087 (0.012)	0.040 (0.025)	0.069 (0.009)	0.029 (0.021)	-0.032 (0.012)
	80-100	0.008 (0.002)		0.006 (0.004)	0.003 (0.001)	0.011 (0.002)	0.011 (0.001)	0.002 (0.001)	-0.103 (0.090)
Decades	1980s	------	-0.101 (0.009)	-0.099 (0.010)	-------	-------	-------	-------	-------
	1990s	------	-0.018 (0.001)	0.012 (0.006)	-------	-------	-------	-------	-------
	2000s	-----	-0.016 (0.002)	-0.011 (0.004)	-------	-------	-------	-------	-------
	Each Year				Yes	Yes	Yes	Yes	Yes
	Industry					Yes	Yes	Yes	Yes
	Constant	-0.158 (0.013)	-0.021 (0.011)	-0.098 (0.015)	-0.072 (0.008)	-0.024 (0.021)	-0.054 (0.019)	-0.032 (0.009)	-0.073 (0.010)
	R^2	0.004	0.007	0.012	0.015	0.020	0.024	0.024	0.024
	N	297,554	297,554	297,554	297,554	297,554	31,305	238,042	28,207
	p-value size quintile =0	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
	p-value decade =0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: Standard errors are reported in parentheses. Observations are weighted by the inverse of the standard error of the cumulative excess return. The base category consists of the return for the smallest quintile of companies as delineated by market cap and the cumulative excess returns in the 1970s as we are interested in seeing the impact of time on cumulative excess returns. Changing the measure of company size as delineated by consideration of cash and cash equivalents, inventories, and short-term investments does not have a notable effect on firms in each size quintile. Industry parameters are specified by identifiers in Compustat. (Multiple companies may be described by the same code.)

There is a discernable trend reflected in the cumulative excess returns and the size quintile data. The estimated coefficient on firms in the 20-40 percentile (by size) is larger than the estimated coefficient on firms in the 40-60 percentile (0.145 as compared to 0.130), and is reflected to the top quintile of

firms in the sample by size. Compared to the 1970s (omitted from decade category above), the estimated coefficient on decade decreased in absolute amount, as did the coefficients on good and bad dividend announcements, suggesting that less cumulative excess return can be explained by announcements over time, regardless of whether the news is positive or negative for corporate outlook.

An F-test of the hypothesis that the structure of the model is the same across the decades apart from a shift in the intercept cannot be rejected at the 5% significance level (p value = 0.405). Thus, the constrained model cannot be rejected against the unconstrained model shown in the different dividend types.

Regression equations, where dependent variable is cumulative excess returns:
  (1) Size percentile
  (2) Decade
  (3) Size percentile, decade
  (4) Size percentile, decade, and dummy for each year
  (5) Size percentile, decade, dummy for each year if dividend announcements were good
  (6) Size percentile, decade, dummy for each year if dividend announcements were neutral
  (7) Size percentile, decade, dummy for each year if earning announcements were bad
  The industry controls are applied to equations (5) (6) and (7)

Table IV: Regression Analysis of Cumulative Excess Returns, 3-day Window: Splits

		All	All	All	All	All	Less than 2:1	2 :1	More than 2:1
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size Quintile	20-40	0.245 (0.014)		0.150 (0.021)	0.111 (0.014)	0.078 (0.017)	0.125 (0.011)	0.098 (0.021)	0.760 (0.021)
	40-60	0.210 (0.012)		0.124 (0.013)	0.104 (0.020)	0.098 (0.020)	0.121 (0.009)	0.022 (0.032)	0.110 (0.018)
	60-80	0.155 (0.009)		0.099 (0.012)	0.087 (0.009)	0.090 (0.021)	0.216 (0.007)	0.023 (0.024)	0.198 (0.003)
	80-100	0.098 (0.011)		0.005 (0.002)	0.033 (0.009)	0.041 (0.002)	0.310 (0.010)	0.099 (0.021)	0.100 (0.016)
Decades	1980s		-0.102 (0.011)	0.089 (0.018)	-------	-------	-------	-------	-------
	1990s		-0.015 (0.009)	0.020 (0.010)	-------	-------	-------	-------	-------
	2000s		0.236 (0.032)	0.312 (0.012)	-------	-------	-------	-------	-------
	Each Year				Yes	Yes	Yes	Yes	Yes
	Industry					Yes	Yes	Yes	Yes
	Constant	-0.223 (0.055)	-0.232 (0.041)	-0.145 (0.032)	-0.124 (0.021)	-0.205 (0.014)	0.250 (0.022)	-0.122 (0.005)	-0.099 (0.012)
	R^2	0.005	0.010	0.012	0.013	0.015	0.020	0.022	0.024
	N	43,259	43,259	43,259	43,259	43,259	28,706	10,168	4,385
	p-value size quintile =0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	p-value decade =0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: Standard errors are reported in parentheses. Observations are weighted by the inverse of the standard error of the cumulative excess return. The base category consists of the return for the smallest quintile of companies as delineated by market cap and the cumulative excess returns in the 1970s as we are interested in seeing the impact of time on cumulative excess returns. Changing the measure of company size as delineated by consideration of cash and cash equivalents, inventories, and short-term investments does not have a notable effect on firms in each size quintile. Industry parameters are specified by identifiers in Compustat. (Multiple companies may be described by the same code.) Noteworthy is the fact that the relationship between the issuance of a "more than 2:1" split correlates with a larger (positive) impact on cumulative excess returns than larger firms correlate with cumulative excess returns otherwise. This is largely explained by the signaling nature of splits in representing internal growth and access to additional streams of capital. As

smaller companies tend to have less total shares outstanding, the impact of multiplying the number of shares outstanding in absolute number is of much greater consequence than it would be on a larger firm.

There is a discernable trend reflected in the cumulative excess returns and the size quintile data. The estimated coefficient on firms in the 20-40 percentile (by size) is larger than the estimated coefficient on firms in the 40-60 percentile (0.245 as compared to 0.210), and is reflected to the top quintile of firms in the sample by size. (Note that the baseline of comparison is firms belonging to the smallest quintile, and in absolute terms the incremental impact of a change in firm size on cumulative excess returns decreases as the firm size increases). That said, the predicted trend of a declining coefficient on years from 1970 on the cumulative excess returns is not reflected in the data, suggesting that split announcements still have impacts on stock trading similar to otherwise novel news.

An F-test of the hypothesis that the structure of the model is the same across the decades apart from a shift in the intercept cannot be rejected at the 5% significance level (p value = 0.315). Thus, the constrained model cannot be rejected against the unconstrained model shown in the different split types.

Regression equations, where dependent variable is cumulative excess returns:
(1) Size percentile
(2) Decade
(3) Size percentile, decade
(4) Size percentile, decade, and dummy for each year
(5) Size percentile, decade, dummy for each year if split announcements were less than 2:1
(6) Size percentile, decade, dummy for each year if split announcements were 2:1
(7) Size percentile, decade, dummy for each year if split announcements were more than 2:1

The industry controls are applied to equations (5) (6) and (7)

CHAPTER 5

SUMMARY, CONCLUDING COMMENTS, AND SUGGESTIONS FOR FUTURE WORK

In summary, this paper describes the share price reaction to dividend, earnings, and stock split announcements over a 38 year period. It first considers whether there is differential information content in similar corporate news announcements for different types of firms. Next, it investigates whether the value of news information about these firms has declined over time (addressing the question of whether news has become "less newsworthy"). Assuming that news announcements are not homogenous and rather vary by industry and firm size, we expect the market to react less strongly (in absolute value) to new information from large firms. We find strong support for this hypothesis. We find little evidence that is consistent with the idea that "news is less newsworthy" over the past few decades. However, we do find that the share price reaction to "good" dividend news has become less positive and to "bad" dividend news has become less negative over time. Interestingly, the standard deviation of excess cumulative returns around a three day window of earnings announcements have trended upwards (with convergence between good, bad and neutral announcements), suggesting that investors may be misinterpreting corporate signals of earnings capacity, investors are paying less attention to analyst forecasts, or the *quality* of information has decreased as more "noise" exists through media reports of corporate events. Regardless of this trend, additional investigation of entire distributions of returns using kernel density estimators rejects the "news is no longer newsworthy" idea.

There are several areas of research this piece lays a foundation for – some posing larger questions than others. On the issue of announcement types (particularly earnings and dividends), it would be worthwhile to calibrate the percent of analysts[58] who predict earnings to be strong or dividends to be increased to determine if there is a substantive impact of predicted outcomes on actual trading volume and market equilibration around stock price. As noted in Section IV C, there is no pre-existing rationale to predict that the announcement of dividends should get stock prices to respond either positively or negatively, but it is nonetheless worth exploring the issue of positive trending in announcements of dividends and increases in earnings announcements and its impact on trading volume. With information on industry-specific factors that discrepantly impact some firms more than others, this topic may shed light on the relative differences in abnormal returns amongst publicly traded U.S. firms.

Next, an issue of inter-industry announcement impact should be more carefully considered. Even peripheral companies in different industries' performance influence the outcomes of other firms. For example, if Disney releases positive earnings results due to a well-performing movie, Time Warner stock may rally. However, if Disney's earnings come out stronger than forecasted because of a good season for the theme park, Time Warner's stock is not likely to be impacted at all. Thus, the implications of inter-industry announcements may have sizeable effects on other firms, but such instances must be examined on a case-by-case basis to fully calibrate individual firm effects. We attempt to address such inter-industry differences

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[58] With the appropriate weight for the reputation of the firm of interest (e.g. Goldman Sachs having more weight than Jefferies)

by employing the classification codes delineated by Compustat and CRSP, but more may be done on this front by examining individual cases of related company announcements.[59]

Furthermore, although there is little doubt that companies act in ways to strategically maximize economic outcomes, the way in which they seek to manipulate perception of value has changed over the decades. Take, for example, the sizable increase in the number of splits employed by U.S. firms at the tail of the economic boom from 2002 to 2006 (see Figure 4). While the rationale of employing this tactic to generate perception of firm value has been debated by academics and practitioners, it brings to light other tactics, like spin-offs, used to: (1) increase core parent-company performance by the divestiture of under-performing subsidiaries (thus improving the company's entire balance sheet) or (2) to bring to public attention the stand-alone value of the subsidiary of interest. As spin-offs are coded in CRSP since the late 1970s, including announcements of spins under a similar methodology to that employed in this paper is a logical progression of the work.[60]

Aside from the breadth industry-specific issues, there are political and legislative considerations that may change the standards of *quality* in information content upon which the public predicates investing decisions. This

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[59] Similar to the methodology employed by Hallock and Farber (2009) in collecting Wall Street Journal information on a particular layoff, future researchers can detail the underlying reasons as explained by the 10Q to identify underlying drivers of performance to address this inter-industry issue.

[60] Tactical spin-offs also pose an interesting question of investor sophistication, as dissemination of information may be complete through internet access and streamlined news-feeds, but truly understanding the implications of a spin requires more complete knowledge of corporate performance at both the parent and operating company level (the financials for which are more complicated and extensive than they are for a vanilla, traditional company. Capitalizing on strategic spins may help indicate where trading volume is originating in the data under examination-- helping to address whether it is simply the movements of capital mandated by large institutional investors and pension funds or individual hedge funds and smaller-cap investors causing movements in stock price.

has considerable implications on the value of analyst forecasts, the transparency and correlation of non-event-specific press releases (regular 8K statements and general news coverage updates unrelated to earnings, dividend or split announcements) and an accurate reflection of the financial state of any given company. This issue of increasing importance in the U.S. under Obama's administration. In March of 2009 the FDIC, the Federal Reserve, and the United States Treasury Department announced the implementation of the Troubled Asset Relief Program (TARP) program, which was designed to (1) provide liquidity on the balance sheets of financial institutions holding "toxic assets" from debt obligations that were on the balance sheets of financial institutions[61]; (2) allow the U.S. Department of the Treasury to purchase or insure up to $700 billion of troubled assets, including residential commercial mortgages and securities, obligations, or other instruments related to mortgages issued before March of 2008; and (3) permit the Federal Reserve Bank of New York to lend up to $1 trillion on a non-recourse basis to holders of certain AAA-rated ABS backed by newly and recently originated consumer and small business loans.[62] The details of the TARP program are not nearly as important as the underlying precedent of a newly invigorated "watchdog" overseeing the market.[63] If the direction and momentum of this administration persists, initiatives to improve the availability and quality of information are not far-fetched, and may provide for an interesting exogenous event which influences excess returns for each event type of interest. Arguably of even greater

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[61] This is done specifically through the Public-Private Investment Program (PPIP).

[62] This is done specifically through the Term Asset-Backed Securities Loan Facility (TALF) program.

[63] It is interesting to note that literature surrounding the impact of SOX legislation to increase the transparency of the financial state of companies found little impact on informativeness of announcements (Cohen, Dey and Lys (2005).

importance to studies of excess returns around news announcements is the verbiage in the TARP program around provisions providing the Chairman of the Board of Governors of the Federal Reserve System the power to determine and advance peripheral issues influencing (or interfering with) market stability. Notably, credit ratings, which are integral to the calibration of earnings and dividend integrity, may be subject to substantial increases in oversight, as credit rating agencies have come under fire for inappropriately assigning high ratings to certain companies. Even if analyst consensus were to stay constant with the alterations in standards of credit rating quality, individual investors and smaller funds (which, as suggested in earlier portions of this paper are an increasing constituency in the totally invested assets in this country) may react to announcements differently or more promptly upon their release. In essence, if the economic state of financial institutions (and by commonly accepted practice, the rest of corporate America, irrespective of industry) are monitored and are consistently providing accurate information to the public, one would hypothesize that the magnitude of any "shock" is a less extreme deviation from normalized trading patterns.

Taken together, to reduce the possibility of omitted variable effects on cumulative excess stock returns and to better detail stock activity around announcement times, future attention should be paid to dimensions like consolidation changes within industries, inter-industry impact of news announcements, and investor mandate origin.[64] Furthermore, with an

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[64] The last item may be addressed if private data is accessible to examine the movement of trades as they relate to investors who cannot hold funds which do not meet their organizational mandates (e.g. a large-cap investing pension or mutual fund which must sell if a stock hits a certain water mark, regardless of rationale for a corporate action like a divestiture via split-off, etc.) While the exact positions of smaller investors will most likely not be made public knowledge in the near future, larger stake holders, particularly when responsible for public

increasing number of investors seeking multiple forms of interaction and monitoring of their funds in the market (either actively by opening e-trading accounts and doing research on companies independent of analyst forecast, or passively by switching broker houses which cater portfolio solutions to personal preference), future research on excess returns around news events will be subject to an evolving "investor intelligence" landscape, where convergence of increasingly informative announcements and an increasingly well-connected investors may result in new patterns of excess cumulative returns around corporate news.

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pension funds and the like, are becoming more transparent to the public, and should serve as an invaluable data set in the near future.

Figure 11A. Distribution of Three Day Returns for Earnings Announcements
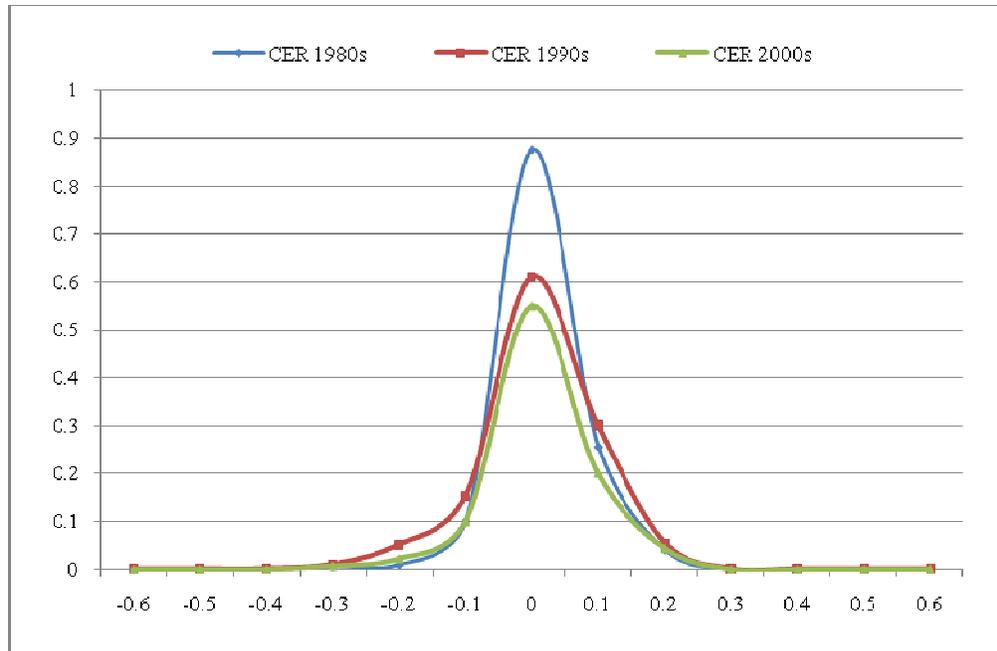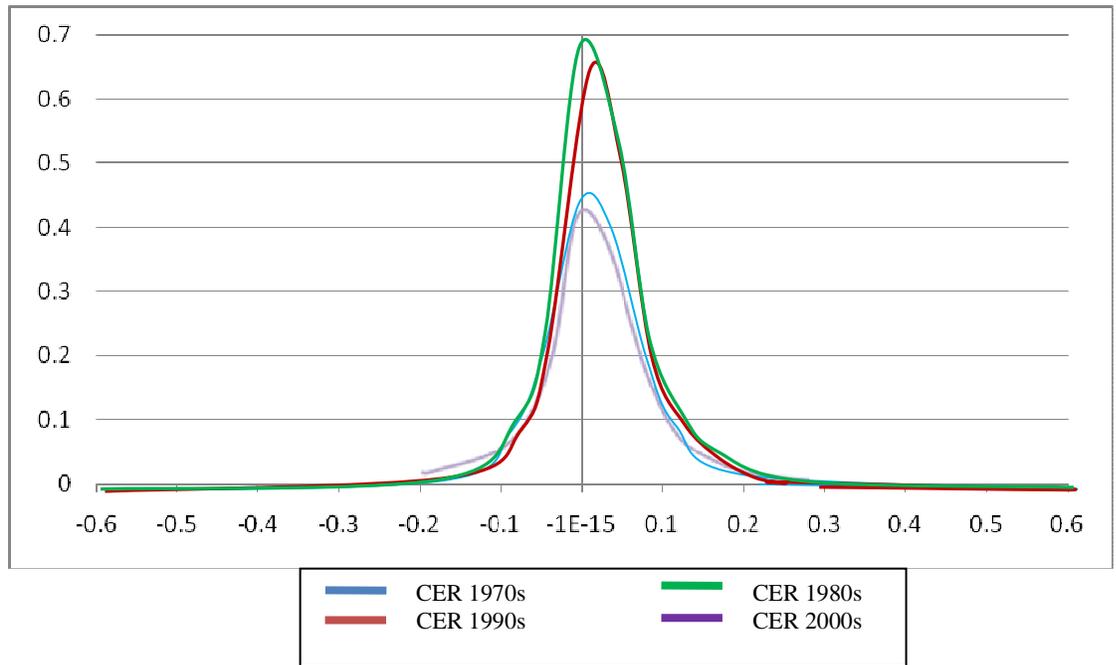Over Time, (-0.6,0.6),(-0.2, 0.2), (-0.1, 0.1)
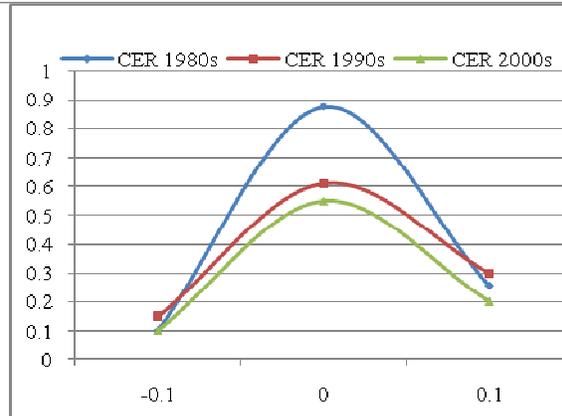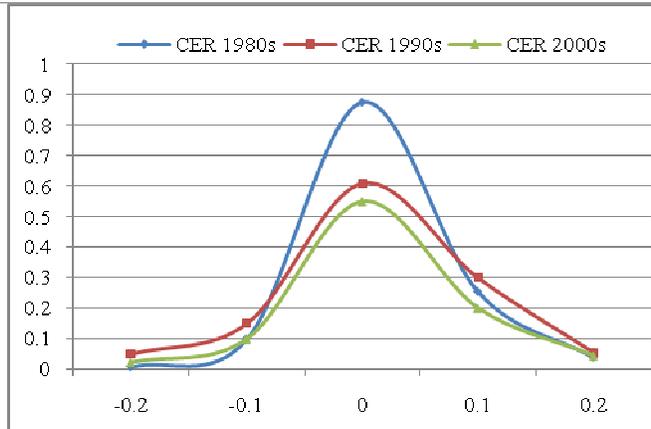
Figure 11B. Distribution of Three Day Returns for Dividend Announcements
Over Time

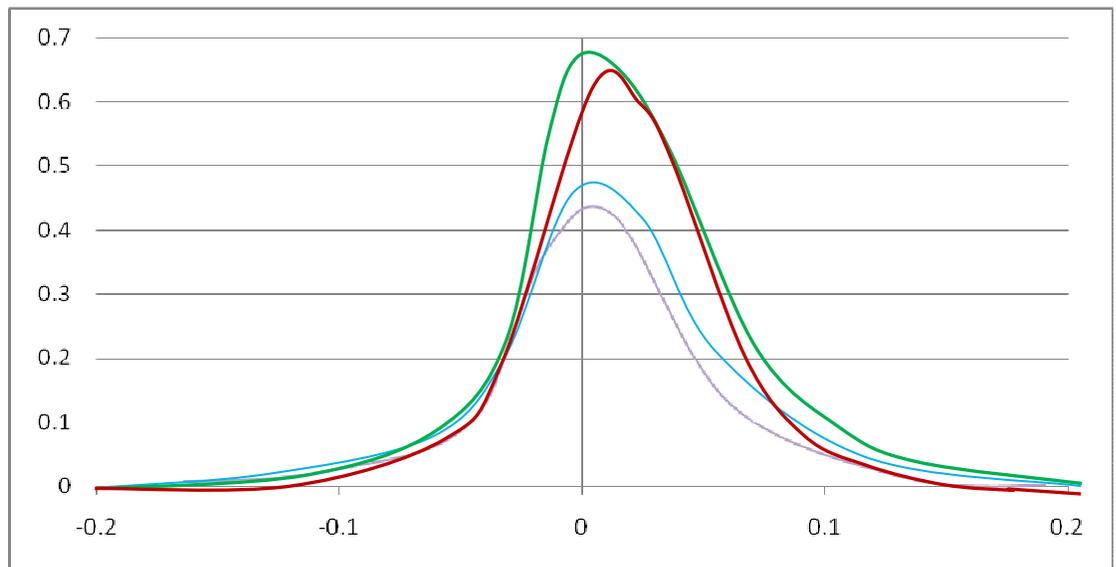Dividends, Cumulative Excess Returns, -0.2 to 0.2

Figure 11B (Continued). Distribution of Three Day Returns for Dividend
Announcements Over Time
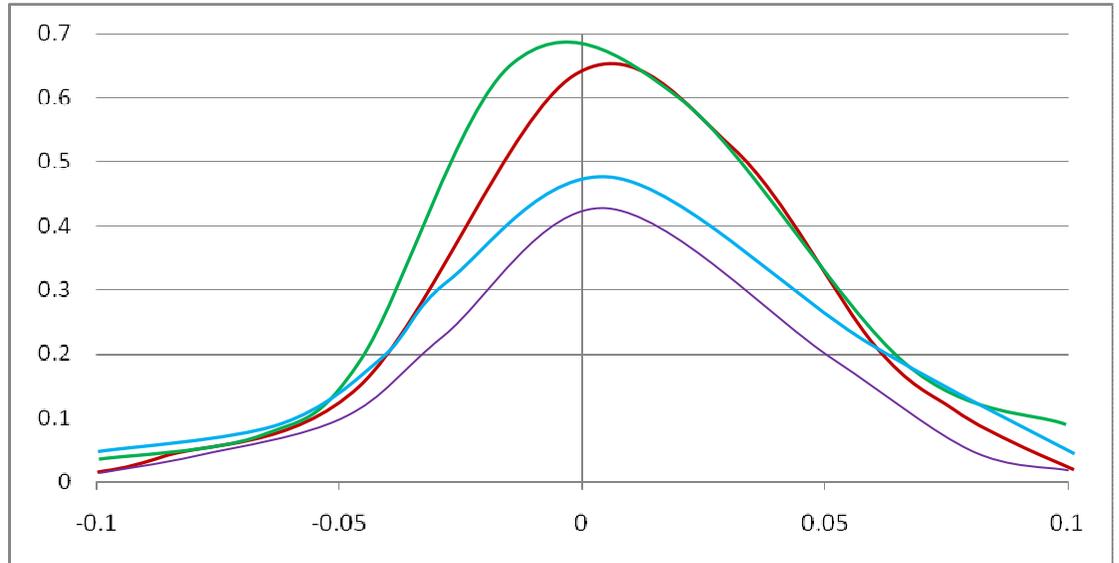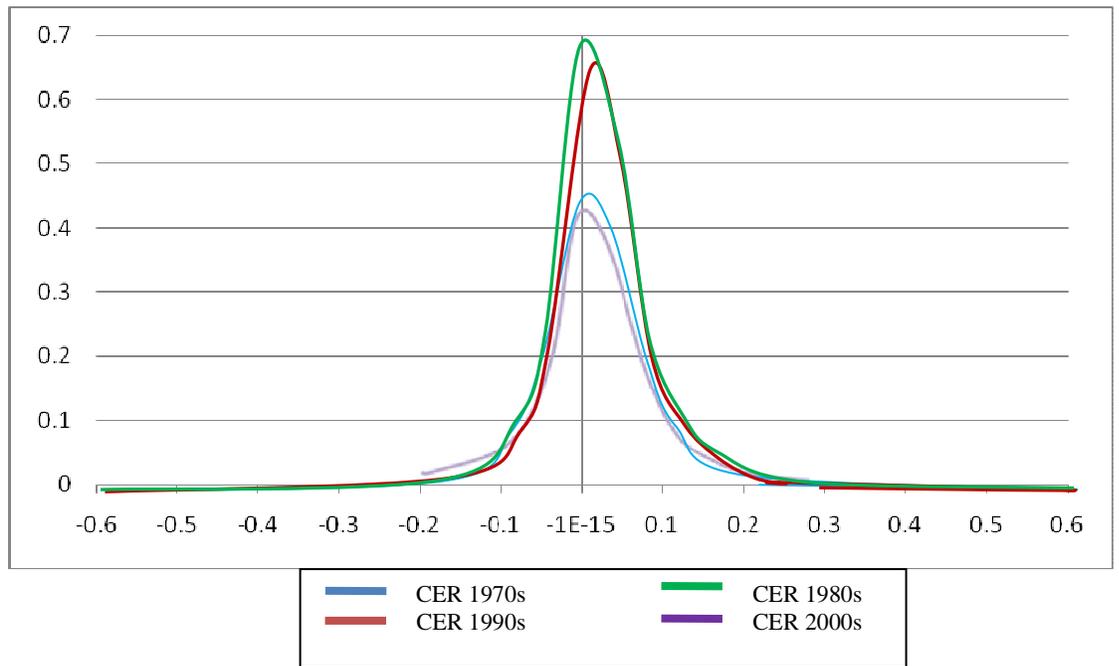
Dividends, Cumulative Excess Returns, -0.1 to 0.1

Figure 11B. Distribution of Three Day Returns for Dividend Announcements
Over Time

CER 1970s   CER 1980s
CER 1990s   CER 2000s

Figure 11B (Continued). Distribution of Three Day Returns for Dividend Announcements Over Time

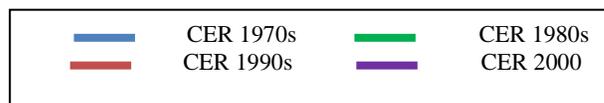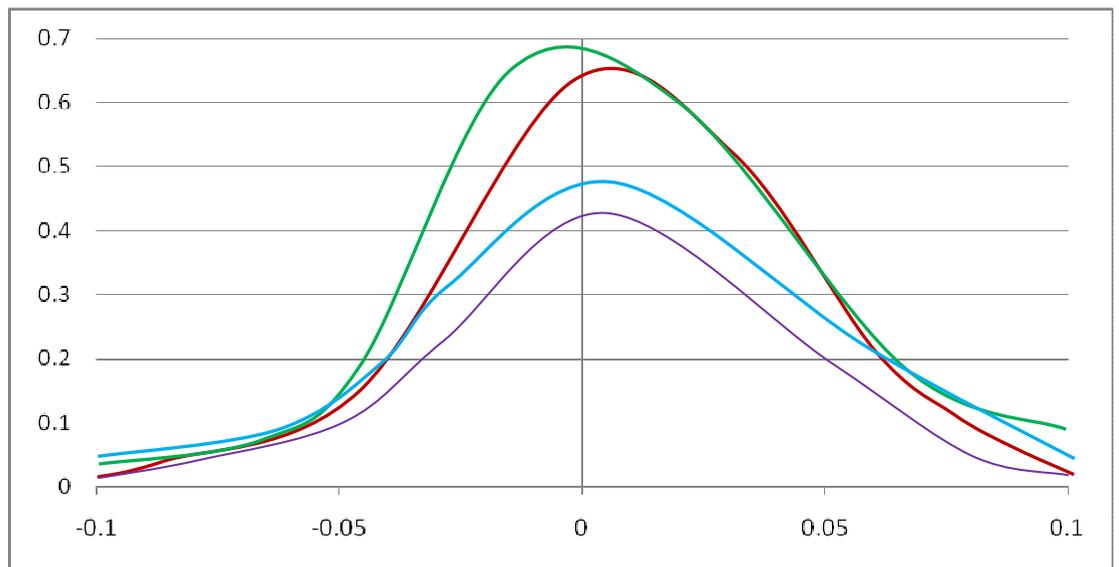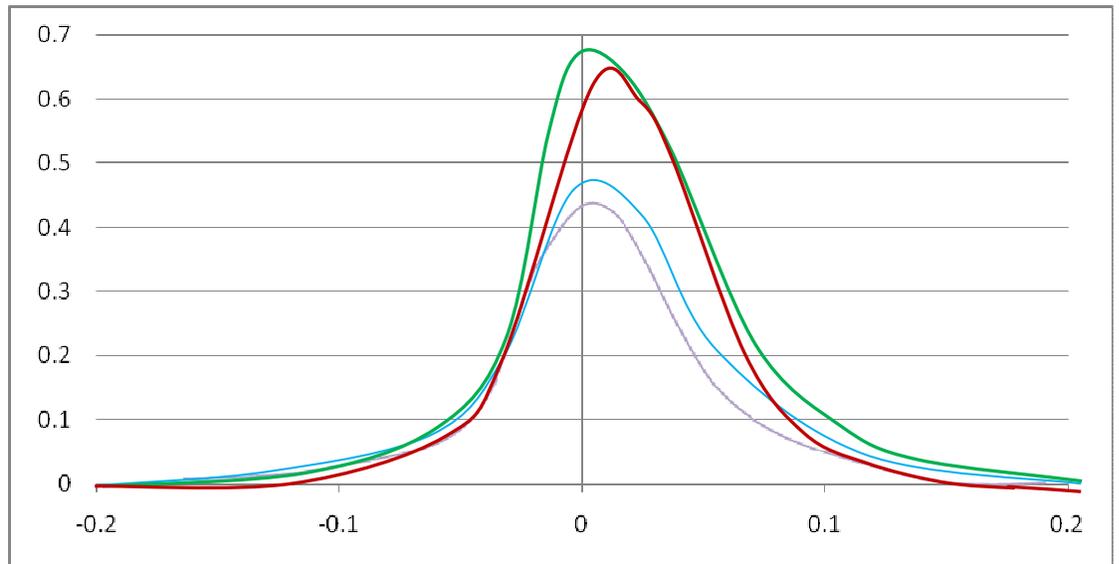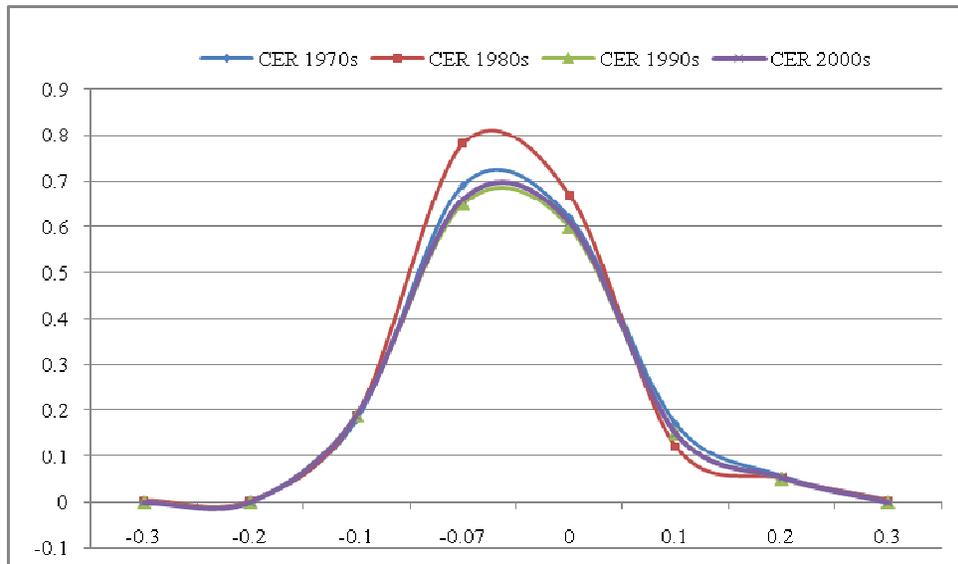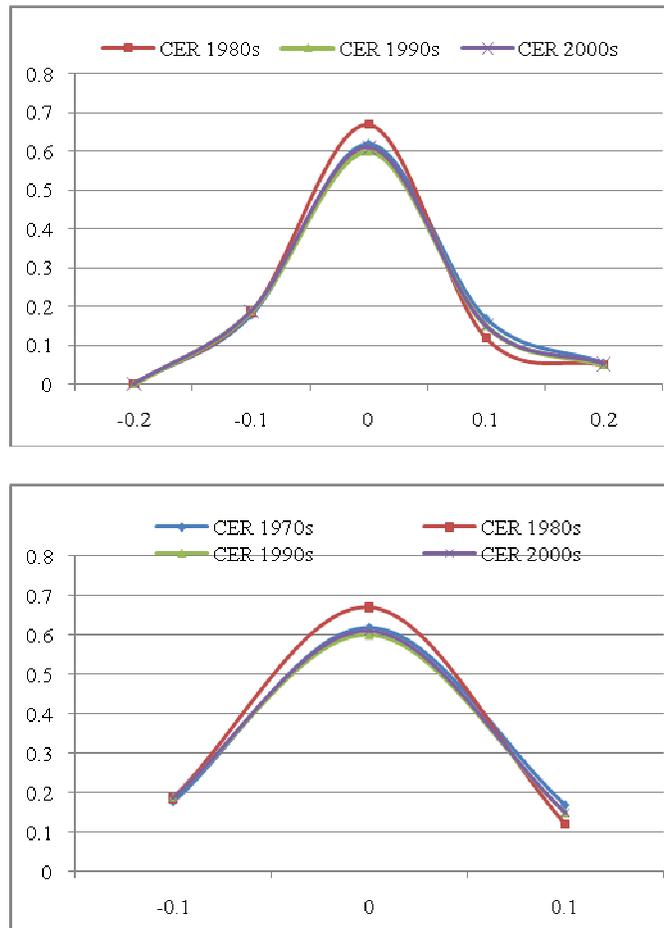Figure 11C. Distribution of Three Day Returns for Split Announcements Over Time

Notes: The cumulative excess returns were calculated by regressing the firm daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around the event date. We compute abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal returns are then calculated by adding up the returns for the three days around the announcement. Rather than averaging the three days returns within year, these figures compute kernel density estimates by the time periods indicated.

Figure 11C (Continued). Distribution of Three Day Returns for Split
Announcements Over Time

Notes: The cumulative excess returns were calculated by regressing the firm
daily stock return, R_{it}, on the value-weighted average market return, R_{mt}. The
regression $R_{it} = \alpha_i + \beta_i R_{mt} + \eta_{it}$ is estimated around the event date. We compute
abnormal returns as follows: $AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}$ Three day cumulative abnormal
returns are then calculated by adding up the returns for the three days around
the announcement. Rather than averaging the three days returns within year,
these figures compute kernel density estimates by the time periods indicated.

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