Media Endorsements of New Product Announcements: A New Marketing Strategy

Herbert Y. T. Lam
China Financial Policy Research Center, School of Finance, Renmin University of China, Beijing, 100872, China
E-mail: herbert.lam@ruc.edu.cn

Angelos J. Doukas, Jie (Michael) Guo* and Sarah (Hong) Xiao
Durham Business School, University of Durham, Mill Hill Lane, DH1 3LB, U.K.
E-mail: a.j.doukas@durham.ac.uk;hong.xiao@durham.ac.uk
*Corresponding Author: *jie.guo@durham.ac.uk*

Abstract

This paper examines whether investors' decisions are influenced by the word content of newspaper reports of new product announcements. Using textual analysis we find that announcements of new products covered by financial newspapers with positive word content earn significant abnormal returns. These returns are 270 basis points higher than new products without positive word coverage, and such announcements bring negative impact to their rival firms' value. Our results suggest that the market reacts to the linguistic content of the new product announcement rather than to the announcement itself.

Keywords: *Product Launch, Event Study, Media Sentiment, Textual Analysis, Industry Rivals*

JEL classification: *G*10, *G*12, *G*14

Comments received throughout the formulation of this work are gratefully acknowledged. Special thanks to anonymous referees and John Doukas for valuable comments and suggestions throughout this work.

1. Introduction

Innovation is costly and risky but could prove highly rewarding. Firms often need to decide how much they should invest in innovation. As new products are expected to increase revenues, such announcements should convey positive information on the firm's future prospects, and markets should credit such announcements. Prior studies confirm this, suggesting that new product announcements have positive wealth effects for announcers[1] (see Chaney et al., 1991; Chaney and Devinney, 1992; Koku et al., 1997; Bayus et al., 2003; Sood and Tellis, 2009) and negative effects on their rivals (Zantout and Chaganti, 1996; Chen et al., 2005). However, we suggest that not every new product announcement creates shareholder value in this manner. The rationale behind this argument is that the wording of an announcement is likely to have a differential bearing on investors' decisions. Applying textual analysis to news reports on new product announcements in the financial press, we find that the stock market only responds positively to those announcements containing positive words. When there are no positive words in the announcement, then no significant impact on the announcer's stock price is observed. The results sharply contradict prior work regarding the positive wealth effects accruing to announcers from new product launches. More important, the evidence suggests that the linguistic content of media endorsements is important in determining the success of announcements of new products.

Previous studies collect the dates of announcements without considering how the news is reported.[2] However, a plethora of recent research in the field of behavioral finance has documented the prominent role of financial newspapers in market reactions (e.g., Tetlock, 2007; Tetlock et al., 2008 in the US, Griffin et al., 2011 in

[1]Other studies examine the stock market's reaction to activities prior to a new product launch, such as R&D activities (Doukas and Switzer, 1992).

[2]See Chaney et al. (1991), Chen et al. (2002, 2005), Chen et al. (2012).

international markets). In particular, this line of research demonstrates that the tone of news has a significant impact on stock returns. Furthermore, results indicate that journalists' reporting styles have a significant impact on investor behavior (see Dougal et al., 2012). Overall, this research[3] demonstrates that investors are not always rational, and hence sentiment does indeed matter and affects the prevailing market price.[4] As a result, previous studies that consider the announcement dates of new products without examining both the content and tone of the announcement itself might mistakenly conclude that the positive effect of new product announcements is driven by the event, rather than being due to the linguistic content. To fill this gap, this paper examines how the market reacts to the informational content of new product announcements. To the best of our knowledge, this is the first paper to examine the stock market's reaction to the textual tone of new product announcements.

The announcements of new products not only affect the market value of the respective firm; studies also demonstrate that such announcements simultaneously have effects on the firm's peers (see Zantout and Chaganti, 1996; Chen et al., 2005). Such results are consistent with the market substitution/business-stealing hypothesis, which maintains that new products substitute for existing alternatives in the marketplace offered by rival firms, and this, therefore, explains the adverse impact on rival firm stock prices. Alternatively, a competing hypothesis concerning the effect of new product introductions on rivals – the market expansion effect – suggests that new products could expand the size of the market and benefit rival firms with similar products. As a result, we should be able to observe positive market reactions in rivals' share prices (see Mahajan et al., 1993). As the existing literature has yet to be able to provide coherent evidence to support either the market substitution or market expansion effect, this paper attempts to contribute to this field by examining the

[3]Interested readers are referred to Subrahmanyam (2008) for an excellent review of the behavioral finance literature.

[4]Previous literature shows that sentiment affects stock prices (Baker and Wurgler, 2006) and exchange rate fluctuations (Haiden et al., 2011).

competing hypotheses using new product announcements in the UK. In addition, we attempt to examine how the linguistic content of new product announcements affects the spillover effect on rival firms.

Using new product announcements manually collected from financial newspapers (namely the Financial Times and The Times)[5], we are able to identify the date and content of the announcements. Our sample consists of 270 new product announcements made by all FTSE All Share firms between 1980 and 2010. We find that, consistent with previous studies, firms with new product announcements in the press earn an average excess return of 1.1% over a three-day period centered on the announcement day. To assess the impact of the linguistic content of these announcements in this return generation, we divide the original sample into two sub-samples – namely announcements that contain positive words in the first group and announcements that are considered positive-neutral. New product announcements that do not contain any positive words (POS = 0) are defined as *positive-neutral announcements*. Alternatively, if the content of new product announcements includes positive words, these are defined as *positive announcements* (POS > 0). We find that *positive announcements* are associated with significant stock price increases. However, the evidence reveals that *positive-neutral announcements* have no significant impact on the stock price of the announcing firm. This finding indicates that not every new product announcement leads to a positive market reaction. This result in itself contradicts the previous literature.

Using the same method as for the definition of announcements with positive word content, we define new product announcements without negative content as *negative-neutral announcements* (NEG = 0) and those with negative word content as *negative announcements* (NEG > 0). The findings of this analysis reveal that there is no significant difference between *negative* and *negative-neutral announcements*.

[5]While these announcements might not represent a complete list of new products introduced in the UK, such a sample is considered representative of announcements that are more likely to have wealth effects for announcers.

However, we find significant differences between the two groups when we restrict our sample to the announcements of new products that are not contaminated by other news five days before and after the date of a new product announcement. As a result, both *positive announcements* and *negative-neutral announcements* have positive wealth effects for announcers.

Additionally, consistent with prior studies, the results indicate that firms with new product announcements experience a significant return advantage relative to their rival firms. However, the return advantage is concentrated on *positive announcements* (POS > 0). In other words, the return advantage of announcing firms over their rival firms is amplified by the linguistic content of the new product announcement. This evidence provides additional support for the proposition regarding the market substitution effect (i.e., Mahajan et al., 1993). This novel result reinforces our previous findings that investors react to the linguistic content of the new product announcements and not the event itself, as has been previously proposed in the existing literature.

As a robustness check, we examine the announcement effects using different event windows while also controlling for whether the news is contaminated by other news (i.e., firms may make other announcements five days before and five days after the new product announcement date). To reduce the likelihood that our results are driven by a specific benchmark method regarding risk adjustment, we estimate abnormal returns using alterative measures. These new results are insensitive to the choice of benchmark.

This paper makes a threefold contribution to the existing literature. First, it enriches the existing literature on the market reaction to new product announcements by providing evidence outside of the US market. Our results indicate that new product announcements in the UK generate excess returns of as high as 2.23% over the three-day announcement period surrounding the announcement date.

Second, unlike the previous literature that ignores the textual and tonal content of new product announcements, our evidence reveals that not every product announcement creates a significant wealth effect for the stockholders of the announcing firm. In particular, using textual analysis, we document the importance of linguistic content in determining asset prices (i.e., optimistic media content is found to be associated with positive stock market reactions). This finding contrasts with prior results, which tend to indicate that only negative sentiment affects stock returns (e.g., Tetlock, 2007; Engleberg, 2008; Kothari et al., 2008). Our results, consistent with the recent work of Jegadeesh and Wu (2011), highlight the important role of the positive word content of corporate announcements on stock prices. We also demonstrate that the linguistic content of new product announcements not only affects the stock price of the announcing firm, but the announcing firm also experiences a significant return advantage relative to its rival firms.

Finally, we demonstrate that the media's choice of linguistic tone affects both stock prices and investor expectations. We show that the positive announcements of new products are associated with a higher Google Search Volume Index (SVI), suggesting that it is positive content that attracts investor attention.

Our results also contribute to recent efforts concerning the role of media bias in financial markets. Gentzkow and Shapiro (2006) demonstrate that a media firm with reputational concerns will distort information to conform to consumers' prior beliefs whenever the outcomes of the announcement are difficult to observe. Gurun (2011) reports that firms employing a 'media expert' receive greater media coverage and a better slant. In addition, he demonstrates that media experts help firms to secure better media management through hiring better public/investor relations firms i.e., press releases are covered more rapidly by the media. Butler and Gurun (2011) report evidence that when firms spend on local media for their advertising, they receive a less negative journalistic reporting of their news than when using non-local

companies. Finally, Solomon (2011) reveals that companies using investor relations firms to communicate with their target audience receive better investor attention. This paper contributes to this literature by highlighting the importance of active media management in ensuring the use of positive words when communicating new product announcements to the market to create a positive wealth effect for the announcing firm.

The remainder of this paper is organized as follows. Section 2 discusses the related literature. Section 3 describes the data and methodology. Section 4 presents the empirical results. Section 5 concludes.

2. Related Literature

This study has its origins in the growing interface between the marketing and finance literatures. First, the paper builds on the product innovation field of the marketing literature. Second, it contributes to the growing finance literature concerning market reactions to the textual content of information communicated via newspapers. We begin this section by discussing the prior literature on product innovation and then present the existing literature on the textual content of media-based product announcements and, in particular, its impact in the context of financial markets.

2.1 New Product Announcements

One of the earliest studies to examine the impact of new product announcements on stock returns was that of Eddy and Saunders (1980), in which no evidence of significant gains for shareholders was observed in response to new product announcements using monthly returns. However, the use of monthly returns makes it rather difficult to identify or isolate the impact of a specific event on stock prices, as the impact is smoothed out over the monthly period. Wittink et al. (1982), in contrast, realizing the limitation of employing daily returns, specifically examine the impact of new product announcements on stock prices for firms in the computer and office machines business between 1979 and 1980 and find only a slight positive reaction to

the announcement of new products. These two studies, however, are subject to limitations associated with either estimation bias or sample size, relying on very brief sample periods.

Conducting a more comprehensive analysis, Chaney et al. (1991) studied the announcements of new products using a larger sample of firms during the period from 1975 to 1984. The authors of this study found that the initial original release of a new product (i.e., the first time an original product is introduced in the market) has a significant effect on stock returns relative to product updates (a product that has been previously introduced in the market that is supplemented with an updated version, for example Apple's iPad 2 and the initial, original product - the iPad).

In a related work, Koku et al. (1997) illustrate that the effect of the stock market's reaction to new product announcements documented in previous studies could be contaminated by the effect of product pre-announcements. Thus, it is imperative to differentiate between the effects of pre-announcements and official announcements. More recently, Sood and Tellis (2009) demonstrate that returns to the announcements of new products are higher for small firms than for large firms, while firms that concentrate on fewer technologies rather than many also enjoy higher returns.

Instead of considering the announcement effects of new product introductions on the announcing firms, other studies investigate the impact of a new product announcement on a rival's firm value. Chen et al. (2005) examine the impact of a new product announcement on rival firms and find that the latter experience a small but significant negative wealth effect. Their findings are consistent with the market substitution effect, whereby announcing firms can benefit from new product introductions that attract business by increasing their market share at the expense of their rival firms. In addition, Fosfuri and Giarratana (2009), using the case of Coca-Cola and Pepsi to examine how a new product announcement could affect the market value of a rival firm, obtain similar results and demonstrate that a new product

announcement has an adverse effect on the rival's market value.

2.2 The Role of Media

The role of media has received increasing attention in the finance literature in recent years. Busse and Green (2002) study the impact of CNBC company discussions on stock prices and trading in the minutes following TV reports and find that new information that was revealed during the CNBC discussion is rapidly incorporated into stock prices. Urrutia and Vu (1999) examine the impact of the inclusion of a firm on the cover page of the *Business Week* magazine on the covered firms' stock prices and volatility. Brody and Rees (1996) study the performance of recommendations made in popular investment magazines. Shiller (2000) discusses the general role of the media in speculative bubbles. Chan (2003) employs newspaper headlines to identify salient news and finds that there is a drift for stocks with news, in particular, for stocks with bad news. Fang and Peress (2009) find evidence to support Merton's investor attention hypothesis, which demonstrates that firms that do not receive media attention earn higher returns than stocks that receive excessive media coverage. Carretta et al. (2011) study the impact of corporate governance press news on stock returns and find that news concerning ownership issues or changes in the board of directors has a negative impact on stock returns for profitable firms.

Recently, there has been growing research interest in how media sentiment relates to stock prices. Tetlock (2007) examines the market response to a column in the popular *Wall Street Journal*. Specifically, he creates a pessimism factor by categorizing negative words using the Harvard IV-4 dictionary and finds a negative association between short-term market reaction and pessimistic words and that such negative market reactions are corrected on subsequent dates. In addition, Tetlock et al. (2008) find that news reports in the media capture difficult-to-quantify soft information concerning a firm's fundamental value, which is then incorporated into stock prices.

Other studies reveal that investors mistakenly react to public news. Tetlock (2011)

studies whether stock market investors appropriately distinguish between new and old information on public firms. His results indicate that individual investors increase their tendency to aggressively trade on news when news is stale. Therefore, individual investors occasionally fail to distinguish between old and new information in the news. In addition, Engelberg and Parsons (2011) attempt to distinguish the causal impact of media reporting from the impact of the events being reported and demonstrate that investors' buying and selling activity is related to local newspaper stories/reports. Their results also demonstrate that the behavior of investors with access to different media coverage of a given information event differs. Thus, differential media coverage appears to offer an explanation for agents' heterogeneous views.

In summary, this paper builds on the interface between the marketing and finance literatures to examine the market's reaction to new product announcements and whether this reaction is uniform across both optimistic and pessimistic new product media reports.

3. Data and Methodology

3.1 Data

The announcement date of a new product is collected manually from the Factiva database. We employ the Factiva indexing codes to search for all articles on the various companies in question. The articles are sourced from two major UK business and finance newspapers, the Financial Times and The Times.[6] We collect news articles that mention the company in either the headline or the lead paragraph. We read several thousand news items relating to firms listed on the FTSE All Share index (both live and dead companies) to determine the date on which the product announcement appears in the news. We only include a product that is introduced in the market for the first time and exclude those products that remain in the early

[6]Ferguson et al. (2011) show that the Financial Times and the Times account for over 75% of the financial news for FTSE All Shares firms between 1980 and 2010.

developmental stages (i.e., preannouncements of new products[7]). Furthermore, we exclude new services or financial products, which do not share the same R&D process as manufacturing products and hence do not share the same innovation costs.[8] Following this process, a typical news article classified as a product introduction will include both the name of the firm and a brief description of the product itself (see the Appendix for an example).

We match the company names from the Factiva news database with financial data – notably share price and market value information - extracted from DataStream. The study spans a thirty-year period between January 1981 and December 2010. This choice of sample period was primarily guided by the availability of press news data from Factiva. The final sample contains 270 new product announcements made by 94 different firms.

Table 1 reports the number of product announcements used in this study.[9] The announcements vary from year to year and are strongly associated with the business cycle. There is an increase in the number of new product launches during the early 1980s before the notable decline after the 1987 crash. New product announcements then steadily begin increasing throughout the 1990s, reaching the second-highest number of announcements in our sample in 1999, before beginning to fall in accordance with the collapse of the market following the internet bubble of 2000. The trend rebounds in 2006 and 2007, but given the subprime crisis in 2008, the figures again begin to decline towards the end of the sample period. Thus, new product announcement activity is closely linked to the business cycle.

[7]See Koku et al. (1997) for a discussion on the preannouncement effect and how this effect differs from the effect of new product announcements.

8 We manually read all articles to ensure that positive announcement news items (POS>0) actually contain a positive signal and negative news items (NEG>0) actually contain a negative signal. All articles with a mixed sentiment are excluded from the sample.

[9] We exclude an outlier of -88% in returns on a single day of Johnson Matthey on 2 Oct 1984 that resulted in the suspension of trading.

The average firm size in our sample is 9103.98 million UK pounds. Most notably, the average firm size in 2002 and 2009 is 80.66 million and 948.78 million, respectively, representing the smallest and the second-smallest firm sizes of announcing firms since 1985, suggesting that larger firms will tend to avoid new product introductions after a market downturn. Alternatively, small firms, which are more dependent on new products for survival (Chaney et al., 1991), continue to introduce new products during a market downturn.

Insert Table 1 above here

Table 2 presents new product announcements categorized by industry according to the DataStream FTSE Level 2 industries. The dominant industry is health care, accounting for 32.59% of the total announcements made. The average size of the 18 firms in this industry is ***19,583.24*** million, nearly three times larger than the average size in the full sample. The average new products per firm within this dominant group is ***4.89***, suggesting that the health care industry is the most active in creating new products.

Insert Table 2 above here

3.2 The Tone of News Coverage

Numerous studies employ a media-based, firm-level sentiment metric using the Harvard IV-4 dictionary to categorize words featuring in news articles (see Tetlock, 2007). However, Loughran and McDonald (2011) note that many negative words from the Harvard IV-4 dictionary are not negative in a financial sense. For example, words such as 'tax', 'depreciation' and 'liability' are not negative when considered in a financial context. The Loughran and McDonald (2011) dictionary contains 353 (2337) financial positive (negative) words. In this study, we follow the classification of positive and negative words according to the respective lists of the Loughran and McDonald (2011) dictionary to measure media tone (sentiment) on a given day for a given firm.[10] We construct the positive (negative) sentiment variable as the sum of the number of positive (negative) words in an article's headline and body divided by the sum of the total number of words in the headline and body. We also measure

[10]See http://www.nd.edu/~mcdonald/Word_Lists.html for the complete word lists by Bill McDonald.

media coverage by counting the number of news articles pertaining to every firm that appeared daily.

3.3 Event study

The performance of the product initiation firm is measured by both the short-run and long-run abnormal returns (AR) generated by the announcement of the product's official launch. The short-run analysis centers on a five-day window employing the Market Adjusted Abnormal Return approach (Seiler 2004; Brown and Warner, 1985), while the long run is assessed using the Buy-and-Hold Abnormal Return (BHAR) approach favored by Buchheim et al. (2001). The analyses are intended to determine the short-run market reactions with respect to ARs generated before determining whether the short-run ARs translate into long-run gains for the shareholders.

We estimate abnormal returns to the event using a number of methods. First, daily excess returns are computed for each firm around the event date. The event date refers to the date on which the new product is announced (t=0) in the Financial Times or The Times. The excess return for stock i on day t is calculated using the following equation:

$$\mathrm{AR}_{it} = \mathrm{R}_{it} - \mathrm{R}_{mt} \quad (1)$$

where, R_{it} is the return on stock i on day t while R_{mt} is the return on the FTSE All Share index on day t. Correspondingly, AR_{it} is the abnormal return on stock i on day t.

We also report the abnormal returns on the day of the announcement using the market-adjusted return model. Brown and Warner (1985) demonstrate that the market-adjusted returns method is as efficient as other models in detecting abnormal returns associated with given events. The market-adjusted returns (ε_{it}) are calculated using the following equation:

$$\mathrm{R}_{it} = \alpha_i + \beta_{1i}\mathrm{R}_{mt} + \varepsilon_{it} \quad (2)$$

where, R_{it} is the return on stock *i* on day *t* and R_{mt} is the return on the FTSE All Share index on day *t*. The parameters α_i and β_i are the market model parameters estimated using a period of 252 trading days prior to the event window.

In addition, we estimate the abnormal returns generated by the event using the Fama-French 3-factor model as introduced by Fama and French (1993).[11] We estimate the parameters of Equation (3) using an estimation period of 252 trading days prior to the event window.

The Fama and French three-factor model is defined as follows:

$$R_{it} - R_{ft} = \alpha_i + \beta_{1i}(R_{mt} - R_{ft}) + \beta_{2i}SMB_t + \beta_{3i}HML_t + \varepsilon_{it} \quad (3)$$

where, for month *t*, R_{it} is the return on stock i at time t; R_{ft} is the monthly Treasury bill return; R_{mt} is the total return on the FTSE All Share index; SMB_t is the difference in the returns of a value-weighted portfolio of small stocks minus large stocks; and HML_t is the difference in returns of a value-weighted portfolio of high book-to-market stocks minus low book-to-market stocks.[12]

We then compute the abnormal returns using the following equation:

$$AR_{it} = R_{it} - R_{ft} - [\alpha_i + \beta_{1i}(R_{mt} - R_{ft}) + \beta_{2i}SMB_t + \beta_{3i}HML_t] \quad (4)$$

The daily abnormal returns are cumulated over the n-day event window. The Cumulative Abnormal Returns (CAR) for each event are given by the risk-adjusted

[11] The daily SMB and HML factors are constructed following the procedure of Fama and French (1993).

[12] We also investigated the long-run performance of the product-launching firm following the referee's suggestion and attempted to compute the BHAR long-run return using different benchmarks such as the Fama-French method, matching firm method, and the calendar time portfolio method (12, 24 and 36 months). However, we were unable to find any significant result. Relative to other major corporate events, such as M&A, SEO or IPOs, a product launch has less of an impact on a firm's long-run performance. Previous empirical studies such as those of Butler and Gurun (2011), Chaney et al. (1992), and Chen et al. (2012) all exclusively focus on short-run analyses.

returns, defined as $CAR_{(x,y)}$, which relates to the difference between the stock's realized return during days *(x,y)* and the expected stock returns as defined according to the Fama-French (1993) three-factor model:

$$CAR_{i(x,y)} = \sum_{t=x}^{y} AR_{it} \qquad \mathbf{CAR_{i(x,y)} = \sum_{t=x}^{y} AR_{it}} \tag{5}$$

3.4 Cross-sectional Analysis

To examine the influence of the textual tone of the news on the stock price of the new product announcing firm, we estimate the effect of positive and negative words on the CARs generated using pooled ordinary least squares (OLS) regressions. Our main specification is as follows:

$$CAR_{(-2,+2)} = \alpha_i + \beta_1 POS + \beta_2 NEG + \beta_3 MC + \beta_4 \ln(SIZE) + \beta_5 \ln(AGE) + \beta_6 PLC + \beta_7 POS*SIZE + \beta_8 POS*AGE + \beta_9 FREQUENT + \varepsilon_i \tag{7}$$

where, $CAR_{(-2,+2)}$ is the cumulative abnormal returns from two days before the announcement to two days after. POS (NEG) is the sum of the number of positive (negative) words in a news article's headline and body divided by the sum of the total number of words in the headline and body, in line with Tetlock (2007). In addition, Fang and Peress (2009) demonstrate that firms with high media coverage earn lower future returns than firms receiving low media coverage. To control for such return patterns, we include media coverage (MC), measured by the number of news articles written about the new product announcing company, as a control variable for our media tone measures.

Previous studies suggest that product innovation is more necessary for the survival of small firms. Therefore, the announcements of new products should be more pronounced for smaller firms (see Chaney et al., 1991; Chen et al., 2005). We therefore include a firm's size (SIZE) in our regression specifications, measured as a

firm's market capitalization at the announcement date.[13]

Prevailing (positive) experience of launching new products could be vital to the success of the announcer, and as a result, we employ two variables – the age of the firm (AGE) and a variable to control for frequent announcers (FREQUENT), to capture the product-launching experience of a firm. AGE is calculated as the number of days from the date of the IPO to the date of the new product announcement. FREQUENT is a dummy variable that equals 1 if the number of new product announcements by announcers during the sample period is more than one and zero otherwise, as in Chaney et al. (1991) and Chen et al. (2002).

Chaney et al. (1991) suggest that industries that are technologically based, such as computer hardware and software products, require product innovations to survive given the shorter life cycles of these products (Sorescu et al., 2007). We therefore create a product life cycle (PLC) dummy variable that takes the value of 1 for the Technology and Telecommunications industries (see Table 2 for industry classifications), precisely the industries that have short product life cycles, and zero otherwise. In addition, to examine the interaction effect between the positive tone (POS) and firm size (SIZE) measures, we introduce an interaction dummy called POS*SIZE that captures the combined effect of both variables on the abnormal returns of announcing firms.

To reduce the likelihood that our results are driven by any benchmark methods related to risk adjustment, we run three sets of regressions in which we use market-adjusted returns, the market model, and the Fama-French three-factor model as the benchmarks for expected returns.

13 We also estimated the regression using the log of market capitalization as the size variable; the result remains identical to that obtained using our main measure.

3.5 Industry Rivals

To more closely capture the effects of new product announcements on a firm's rivals, we employ the industry classification according to the DataStream FTSE Level 4 industries,[14] which contains 25 industries. Similar to the main event study, defined in the prior section, we calculate the CAR of the industry rivals in an equally weighted portfolio of our sample firms, based on the market-adjusted abnormal returns in percentage terms, and compare these to the performance of the announcing firms. In selecting the rival firms, we exclude other announcements within the industry group to allow us to isolate the effect of the share price response of the industry rivals from announcing firms in the same industry.

$$\text{ICAR}_{(0,1)} = \alpha_i + \beta_1 \text{ACAR}_{(0,1)} + \beta_2 \text{POS} + \beta_3 \text{NEG} + \beta_4 \text{POS*ACAR}_{(0,1)} + \beta_5 \text{NEG*ACAR}_{(0,1)} + \beta_6 \text{MC} + \beta_7 \ln(\text{SIZE}) + \beta_8 \ln(\text{AGE}) + \beta_9 \text{PLC} + \beta_{10} \text{FREQUENT} + \varepsilon_i \quad (8)$$

Following Chen et al. (2005), we calculate the two-day abnormal returns for industry rivals ($\text{ICAR}_{(0,1)}$). The dependent variable is the cumulative market-adjusted abnormal returns two days after the new product announcement ($\text{CAR}_{(0,1)}$). POS (NEG) is the sum of the number of positive (negative) words in an article's headline and body divided by the sum of the total number of words in the headline and body. Media Coverage (MC) is the number of news articles written about the company. SIZE is the market capitalization of a firm at the announcement date. AGE is the number of days from the date of the IPO to the date of the new product announcement. Product life cycle (PLC) takes value 1 for Technology and Telecommunications industries (see Table 2 for industry classifications) and zero otherwise. FREQUENT equals 1 for frequent announcers and zero for single-product announcements during our sample period. [15]

[14] Bekaert et al. (2009) provide a matching between DataStream FTSE Level 4 industry classifications and SIC 30 industries.

[15] We also consider the actual number of announcements (i.e., 1,2,3,4) for the FREQUENT variable following Chaney et al. (1991) and Chen et al. (2002), and the results are consistent with those obtained with the dummy variable measure.

4. Empirical Results

In this section, we investigate stock market reactions to the informational content of new product announcements. We begin by examining whether the market reacts positively to new product announcements. The objective is to determine whether the linguistic content of the announcement has a distinct impact on stock returns. That is, whether there is an asymmetric response to the positive and negative textual content of the news reports. If so, the next question we address is whether the market accounts for any other news apart from that concerning the product launch.

4.1 Market Reaction to New Product Announcements

We begin by examining how the market reacts to new product announcements. Table 3 presents the summary statistics for all of the variables used in the analysis and the CARs. Consistent with the view that new product announcements have a positive impact on returns, the results reveal that, for the three-day event window centered on the announcement date, new product announcements generate an average market-adjusted abnormal return of 1.1%. The results computed over other event windows are consistent with the findings from this three-day event window.[16] This finding indicates that, on average, new product announcements are associated with a significant wealth effect for the shareholders of announcers. In addition, the mean 30-day announcement-period CAR (-1, +30) is 1.61%, suggesting that the announcement effect does not reverse 30 days after the announcement date.

Previous studies suggest that new product announcements have a small but significant negative impact on the market values of industry rival firms. Chen et al. (2005) document an average loss of 0.12% to industry rivals during a two-day announcement

[16]CAR (-2,+2) and CAR (-3,+3) are 1.23% and 1.7%, respectively. In addition, we also calculate abnormal returns using the market model and the Fama and French three-factor model. Both estimations generate slightly higher CARs, but the overall picture remains unchanged. Unreported results are available upon request.

period (-1, 0). We also examine how industry rivals perform during the period surrounding an announcement from product launching firms. Table 3 indicates that, unlike previous studies, we do not observe negative abnormal returns during the announcement period. Instead, we document an insignificant abnormal return, suggesting that new product announcements do not exert any impact on an announcer's industry rivals.

Table 3 also presents the summary statistics of the variables used in this study. The findings indicate that the mean value of positive words (POS) is higher than that of the negative (NEG) ones, suggesting that media reports of new product announcements are, on average, more positive. This is unsurprising, as new product introductions are believed to provide announcing firms with a competitive advantage over their competitors, and thus, should be interpreted as good news for the announcing firms.

Overall, the positive announcement effect of a new product introduction appears to be strong, regardless of which measure of abnormal returns or short-term event window is used. These findings are consistent with those of previous studies (see Chaney et al., 1991; Chaney and Devinney, 1992; Koku et al., 1997; Bayus et al., 2003; Sood and Tellis, 2009), which indicate that new product announcements have a positive and significant impact on stock returns. However, our findings thus far are inconsistent with Chen et al. (2005) regarding the lack of a negative impact on industry rivals in response to a new product announcement.

Insert Table 3 about here

4.2 Market Reaction to the Textual Content of New Product Announcements

In the previous section, we demonstrated that there is a positive association between new product announcements and stock returns. In this section, given the increasing use of textual analysis in finance and the emerging evidence from this strand of the literature indicating that positive and negative wordings embedded in the content of

press releases/news lead to a significant market reaction, we perform a text-based analysis to examine how the stock market reacts to the positive and negative content of the new product announcements.

Table 4 reports the short-term abnormal returns surrounding new product announcements sorted by the positive and negative wordings of these announcements. First, we divide our sample based on news that contains positive words (163 observations) and news that does not contain positive words (107 observations). We then examine, in each portfolio, the abnormal returns surrounding the dates of new product announcements. Panel A in Table 4 reports market-adjusted abnormal returns. The findings suggest that new product announcement news articles with positive word content earn, on average, an excess return 2.46% higher than similar announcements without any positive words over a three-day period (days -1 to 1). The difference is statistically significant at the 1% level. In contrast, the difference between new product announcement news items with and without negative word content is statistically insignificant at conventional levels. Moreover, the difference between the new product announcements with positive and negative wording over a three-day period is 1.19%, statistically significant at the 10% level. These results demonstrate that the market's reaction is influenced by the positive word content of new product announcements. This result is consistent with Jegadeesh and Wu (2011), who stress the important role of the positive word content in corporate announcements on stock prices, but inconsistent with other studies (e.g., Tetlock, 2007; Engleberg, 2008; Kothari et al., 2008) reporting that negative words have a strong impact on stock returns. A possible explanation for the difference in our findings is that new product announcements, on average, are perceived to reflect the growth prospects of the firm, and therefore, the positive wording of such announcements reinforces market beliefs concerning the expansionary and innovative strategy of the firm. In contrast, investors do not appear to regard new product announcements with negative word content as a

failed product innovation strategy.[17]

More important, the mean value of the CAR (-1,+1) of announcements without positive words is -0.23% (insignificantly different from zero) suggests that these announcements do not trigger a positive market reaction. Thus, this result implies that the positive announcement returns in response to new product announcements, documented in previous literature (Chaney et al., 1991 and others), are driven by the announcements' positive word content. The asymmetric impact of the positive or negative tone of announcements further indicates that investors react to the linguistic nature of news reports concerning the introduction of a new product rather than the announcement itself.

Panels B and C of Table 4 report abnormal returns based on the market model and the Fama and French three-factor model, respectively. The results indicate that announcements with positive words continue to outperform those without any positive words, whereas the stock market's reaction to news that contains negative words and *negative-neutral announcements* is statistically indistinguishable from zero. Overall, the results suggest that investors react positively to new product announcement news items that contain positive words, while news without positive word content (neutral announcements) has no impact on the announcing firm's stock price. Our results also illustrate the importance of textual analysis in quantifying the content of new product announcements and reveal the asymmetric influence such announcements have on the market's reaction.

Insert Table 4 about here

Figure 1a (Figure 1b) graphically depicts the difference in the CARs over a 61-day event window (-30, 30) surrounding new product announcements that contain positive (negative) words relative to those without any positive (negative) words, confirming

[17] Product launching news items generally attract more attention from the market, and therefore market reaction is stronger towards any news containing stronger sentiments. In this setting, firms would generally prefer to receive additional media coverage, and therefore we observed weaker market reaction towards the POS=0 group and a positive reaction, even for NEG=0 group.

the importance of positive words in determining the wealth effect of new product introductions for announcing firms.

Insert Figure 1a about here

Insert Figure 1b about here

4.3 Robustness Checks

One of the major concerns regarding our previous findings is that the results could be distorted by additional events occurring around the new product launches, as any news associated with the new product announcement could affect stock returns, and the positive association between the positive content of the new product announcement with the stock returns could be partially driven by any other good news that may have been released around the same time. To control for the effect of such contamination by other news, we divide our sample into two subsamples - the first group (No Additional News) excludes those announcements that have other information entering the market regarding other business within five days before or after the date of the new product announcement, while the second group (Additional News) contains firms that have multiple news items in addition to the new product announcements. We further divide each of the groups into two sub-groups based on whether the announcements of these new products contained positive words (POS > 0) or were *positive-neutral announcements* (POS = 0).

Panel A in Table 5 reports the short-term abnormal returns surrounding new product announcements with positive words in the textual content (POS > 0). The results indicate that the impact of new product announcements on stock prices is very similar for both groups The difference between firms with additional news events and those without appears to be stronger in CAR (-2, +2) and CAR (-3, +3) but is economically and statistically insignificant, suggesting that the announcement effects of new products are not severely contaminated by any additional announcements. In addition, the results indicate that announcements without positive words (POS = 0) continue to fail to be associated with any significant wealth effects for announcing firms in both

sub-groups (i.e., with or without additional events). Overall, the new results suggest that the positive association between the announcements of new products and the stock prices remains strong when the announcements of the new products are free from any effects occasioned by additional events.

Panel B in Table 5 reports the results concerning announcements with negative words. Again, the full sample is first divided into the two sub-samples: No Additional News and Additional News. As before, each of the portfolios is divided into two additional portfolios based on whether the announcements of these new products contained negative words (NEG > 0) or did not (NEG = 0). The findings suggest that news items without negative words earn higher abnormal returns than news items with negative words. This pattern is concentrated within the portfolio that is free from any additional news events. This is consistent with our previous findings, which show that announcements without any negative words (NEG = 0) are, on average, associated with more positive announcement returns than new product announcements with negative words (NEG > 0). Therefore, we conclude that the market reacts more positively to news that is uncontaminated by other events surrounding the introduction of new products.

Insert Table 5 about here

4.4 Multivariate Analysis

To examine the influence of the textual tone of the news associated with the introduction of new products on the announcing firm's market reaction, we conduct a series of regressions and control for additional predictors. The results are reported in this section. This section also serves as a robustness check of the event analysis employed in the previous sections of this work. In particular, we estimate the relationship between the CARs over the (-2, 2) event window with positive/negative words using pooled ordinary least squares (OLS) regressions (Equation 7)[18].

[18] We also use CAR(-1,1) as the dependent variable and obtain similar results.

Table 6 reports the coefficients of regressions in which the dependent variable, CAR(-2,+2), is regressed on the positive/negative content metrics of the new product announcements. The results of Model 1 indicate that new product announcements that receive news coverage with positive word content exert a positive and significant effect on the shareholder value of the announcing firm. Consistent with our earlier findings, the coefficient of POS is 0.747, significant at the 10% level. The coefficient of NEG is negative but insignificant, thereby reinforcing the view that investors do not react significantly to reports with negative word content or that lack negative words. The coefficient of AGE is statistically significant and negative, suggesting that younger firms initiating new products realize significant abnormal gains when their new products receive positive media coverage (endorsement). This is consistent with Chaney et al. (1991), who find that smaller firms, and in most cases younger firms, rely more on product innovation. In addition, we find an insignificant relationship between CAR(-2,+2), and product announcement frequency, FREQUENT, suggesting that firms with frequent product announcements do not realize significant abnormal returns.

Model 2 includes firm size (SIZE) and media coverage (MC) as control variables in the regression. Our main result is robust, as the coefficient of POS remains significantly positive while the NEG continues to enter the regression with an insignificant and negative coefficient. The results, however, reveal that after controlling for size, the negative impact of firm age on abnormal returns disappears. The coefficient of SIZE is -0.0104 with a significant t-value of -4.16.

Model 3 in Table 6 includes two interaction variables, POS*AGE and POS*SIZE. [19]As before, the coefficient of POS remains positive and significant at the 5% level. The interaction results demonstrate that the coefficient of the interaction term

[19] Larger and well-established firms should have more sophisticated media strategies and should therefore receive more positive news following a product announcement thanks to their marketing campaign.

(POS*SIZE) is significantly negative, suggesting that smaller (larger) firms benefit more (less) from the positive content of the media articles. New product announcements by large firms do not appear to reverse the market's negative beliefs concerning their future prospects. The interaction term POS*AGE is statistically insignificant, suggesting that the effect of firm age is subsumed by firm size.

To examine whether our results are sensitive to the abnormal return measure employed thus far, we replicate the previous regression analysis by estimating abnormal returns based on the market model. Using the specifications of models 1 to 3, the new regressions 4 to 6 reveal that our results remain unchanged. Most notably, the POS continues to be the key explanatory variable and enters the regressions with positive and statistically significant coefficients.

The last set of regressions, 7 to 9, use abnormal returns that are based on the Fama-French three-factor model. These results again are very similar to models 1 to 3. One key difference is that the coefficient on NEG becomes significantly negative at the 10% level, taking on a value of -0.99. This finding suggests that after controlling for firm-specific characteristics, a negative announcement has a slight reverse impact on a firm's market value. In summary, consistent with our previous findings, these results provide additional support for the view that news reports with positive word content play a significant role in raising the market value of the firm when it launches a new product in the market, regardless of which risk-adjusted method is used.

Insert Table 6 around here

4.5 The Tone of News and Google SVI

Previous sections demonstrate that investors react positively to new product announcement articles that contain positive words, but they do not appear to be significantly influenced by news reports with negative word content. This implies that investors pay greater attention to new product announcements that inspire positive word coverage in news reports. That is, new product announcements with positive word content should trigger greater investor attention. In this section, we examine the

market's asymmetric reaction to positive and negative wording tones from the investor attention perspective. Da et al. (2011) are the first to employ the Google Search Volume Index (SVI) to proxy for investor attention. They suggest that when investors search for a particular stock on Google, they do so because it has attracted their attention. Therefore, the intuition is that the higher the SVI, the more investor attention is attracted. Following Da et al. (2011), we collect the SVI from Google Insight for Search (http://www.google.com/insights/search/). As Google only began providing the SVI at the beginning of 2004, our sample period is restricted to commencing in January 2004 and ending in December 2010.

Similar to Da et al. (2011), we calculate the abnormal search volume (ASVI) as the difference between the logarithm of SVI during week *t* and the logarithm of the median value of SVI during the prior eight weeks. Given a smaller sample size of positive and negative-neutral announcements in this sub-sample, we use the median to divide the sample of stocks into low and high groups based on positive words, negative words and pessimism (the difference between negative and positive words). The results of the Google Abnormal Search Volume (ASVI) and the change in ASVI between time *t* and the previous (next) week *t-1 (t+1)* are reported in Table 7. The results indicate that during the new product announcement week, the search volume increases (decreases) for news report with high positive (negative) word content, although these are both statistically insignificant. However, we observe that there is a significant search volume increase in the week following the product launch for the high positive words group. The change in ASVI is significantly positive at the 5% level, taking on a value of 0.0584, while the change in ASVI of the low positive words group is statistically insignificant at conventional levels. The results are very similar when we consider the alternative measures of the tones of news reports, i.e., Negative in Panel B and Pessimism in Panel C. Overall, these findings suggest that positive announcements draw greater investor attention, which explains the significant and positive market reaction to new product announcements that receive positive word coverage in news reports.

Insert Table 7 about here

4.6 Industry Rivals

In this section, we examine the market response to a new product announcement for both announcing firms and their rivals. Table 8 presents the two-day CARs[20] for announcing firms and their rivals, as well as the CARs in each industry according to the DataStream FTSE Level 4 industry classifications. First, unlike previous studies, the stock prices of rival firms are not adversely affected by the new product announcements of announcing firms. However, we find that announcing firms realize significantly higher abnormal returns than their rival firms that do not launch new products. Specifically, firms launching new products earn a two-day CAR of 0.85%, whereas their rivals earn only 0.04%, with the difference between the two groups being statistically significant at the 1% confidence level. In addition, we find that technologically based firms (TECH) launching new products earn two-day CARs of 1.58% whereas their rivals only earn 0.11%, with the difference between the two groups being statistically significant at the 1% confidence level. Such results are consistent with Chaney et al. (1991), demonstrating that the effect of new product announcements is greater for technologically based firms that need to constantly update their products.[21]

Moreover, the results indicated that out of 25 industries, rival firms only realize negative and lower abnormal returns than new-product announcing firms in six. Seven industries earn lower positive abnormal returns than the announcers. It is worth noting that, although the sample of firms in each industry is small, this finding presents an interesting feature - the two industries that have significantly lower returns for industry rivals compared to announcing firms are Pharmaceuticals & Biotechnology,

[20] A rival firm's share price should not be affected before the new product announcement; therefore, we selected a 2-day window to calculate CAR. However, we also used a 5-day window, and the result is consistent with those obtained with the 2-day measure.

[21] Table 8 reports results for an equally weighted portfolio of all firms in the same industry. We also computed the result using a value-weighted portfolio, as shown in the table below, and the results are generally consistent with our main table. We therefore only present the main table in this paper.

and Technology Hardware & Equipment. This is consistent with Chaney et al. (1991), who argue that the market competitiveness in these industries relies on product innovation, and therefore, rival firms tend to suffer significantly when their competitors release new products.

Insert Table 8 about here

As the previous evidence suggests that the linguistic content of the new product announcements has a distinct influence on the share prices of announcing firms, in this section we examine its impact on the share prices of rival firms. The results in Table 9 (Panel A) indicate that announcing firms realize significant positive share price gains relative to their rivals when the word content of news concerning the announcement is positive (POS > 0), and these results are only concentrated among technologically based firms (TECH). In contrast, there is an insignificant abnormal return difference between announcing firms and their rivals when the new product launches are not reported with any positive words (POS = 0) in the news media. These results are consistent with the evidence reported in the previous section, in that only news with positive words (POS > 0) entails a statistically significant market reaction. Announcements that do not contain positive words (POS = 0) elicit an insignificant market reaction for announcing and rival firms. A similar pattern, as shown in Panel B of Table 9, is observed when we divide the sample into negative and negative-neutral announcements. The results demonstrate that negative-neutral announcements are associated with significantly higher abnormal returns than their rivals, again for the TECH firms only. Overall, the evidence reveals that announcements containing more positive word content, both *positive announcement*s and *negative-neutral announcements*, result in significantly stronger market reactions for announcing firms, in particular TECH firms, than their rival firms.

Insert Table 9 about here

4.7 Market Substitution Effect vs. Market Expansion Effect

As discussed above, the market substitution effect suggests that announcing firms can benefit from new product introductions that attract business by increasing their market shares at the expense of their rival firms. Conversely, the market expansion effect

suggests that new products could expand the size of the market and benefit rival firms offering similar products, and as a result, we should be able to observe positive market reactions in rivals' share prices. To perform a formal test of the competing hypotheses, we conduct a multivariate test, following Chen et al. (2005), in Table 10 to empirically assess these effects at a new product launch.

Our empirical results support the market substitution effect, as we observe a significant, negative correlation between industry rivals' 2-day CARs with the product launching firm that received positive media sentiment. In this respect, the coefficient (-6.6250) is significant at the 5% level for the interaction variable POS*ACAR.[22] This relationship is more pronounced in the high-tech industry, as the industry is heavily reliant on product innovation.[23] Model 2 includes two interaction variables that indicate partial support for the market expansion effects for rival firms, but other firms in the same industry experience market substitution effects following positive announcements. Positive words produce market substitution effects for other firms in the same industry.[24]

Insert Table 10 about here

5. Conclusion

[22] The positive correlation between ICAR and ACAR represents partial support for the market expansion effect, but while significant, the coefficient (0.1589) is much smaller than for the relationship above.

[23] We also attempted to include the non-tech firms in the regression, but the result is insignificant, and we therefore removed it from the main table.

[24] As previous evidence suggests that the linguistic content of the new product announcements has a distinct influence on the share prices of announcing firms, we examine its impact on the share prices of rival firms. The results indicate that announcing firms realize significant positive share price gains relative to their rivals when the announcement word content is positive (POS > 0) in news reporting. In contrast, there is an insignificant abnormal return difference between announcing firms and their rivals when the new product launches are not covered with any positive words (POS = 0) in news reports. Overall, the evidence reveals that announcements containing more positive word content, both *positive announcement*s and *negative-neutral announcements*, result in significantly stronger market reactions for announcing firms than their rival firms. We did not include this table to conserve space; the results are available upon request.

Numerous studies have documented that new product introductions create positive wealth effects for firms (see Chaney et al., 1991; Chaney and Devinney, 1992; Koku et al., 1997; Bayus et al., 2003; Sood and Tellis, 2009) and allow innovators to remain at the cutting edge, creating a threat to rivals (Zantout and Chaganti, 1996; Chen et al., 2005). In this paper, we examine whether investors' reactions to new product announcements are affected by the linguistic content of financial newspaper reports on such announcements. Using textual analysis, our objective is to examine whether the linguistic content of media coverage plays an important role in shaping investors' decisions.

Consistent with the previous literature, we document that firms introducing new products realize significant abnormal gains following the announcement. Contrary to the previous literature, our results demonstrate that the linguistic content of financial newspaper reports exerts an important influence on investors' decisions. Specifically, we find that the new product announcement gains are only associated with newspaper reports containing positive word content (*positive announcements*) in the announcement. However, new product announcements that receive neutral coverage in the financial press do not realize significant abnormal returns. In addition, our evidence reveals that the return advantage enjoyed by announcing firms relative to their rival firms is linked to newspaper textual coverage with positive word content, and this effect is exclusively concentrated among the technologically based firms.

In addition, we find evidence to support the market expansion effect of new product announcements and that this effect is exclusively concentrated among technologically based firms. Furthermore, we find that positive words produce market substitution effects. Our results reconcile the inconsistency between the market expansion and market substitution effects of new product announcements and demonstrate that the linguistic (positive) content of newspaper reports influences the (negative) spillover effect on rival firms.

More important, this paper contributes to the existing literature on active media management by demonstrating the importance of the linguistic content of newspaper reports in determining the market's reaction to the introduction of new products. Our evidence demonstrates that the way a corporate event (announcement) is covered in financial newspaper reports is more likely to influence the market's perceptions than the event itself. Finally, our findings appear to be consistent with the recent literature, which reveals that firms employ investor relations (IR) firms (Solomon, 2011) and media experts (Gurun, 2011) in an attempt to increase shareholder value by changing market perceptions.

References

Baker, M. and Wurgler, J., 'Investor Sentiment and the Cross-Section of Stock Returns', *Journal of Finance*, 61, 2006, pp. 1645-1680.

Bayus, B. L., Erickson, G. and Jacobson, R., 'The financial rewards of new product introductions in the personal computer industry', *Management Science*, Vol. 49(2), 2003, pp. 197-210.

Bekaert, G., Hodrick, R. J., Zhang, X., 'International stock return comovements', *Journal of Finance*, 64, 2009, pp. 2591-2626.

Brody, R. G. and Rees, J., 'The performance of popular investment magazine stock analysts, *Journal of Applied Business Research*, Vol. 12, 1996, pp. 42-46.

Brown, S. J. and Warner, J. B., 'Using Daily Stock Returns: The Case of Event Studies', *Journal of Financial Economics*, Vol. 14(1), 1985, pp. 3–31.

Buchheim, A., Grinstead, A., Janssen, R., Juan, J. and Sahni, J., 'Buy, Sell, or Hold? An Event Study Analysis of Significant Single Day Losses in Equity Value', Working Paper: Kellogg Graduate School of Management, 2001

Busse, J. A. and Green, T. C., 'Market efficiency in real time', *Journal of Financial Economics*, Vol. 65, 2002, pp. 415-437.

Butler, A. and Gurun, U. G., 'Don't believe the hype: Local media slant, local advertising and firm value', *Journal of Finance*, 2011, Forthcoming.

Carretta, A., Farina, V., Martelli, D., Fiordelisi, F. and Schwizer, P., 'The impact of corporate governance press news on stock market returns', *European Financial Management*, Vol. 17(1), 2011, pp. 100-119.

Chan, W. S., 'Stock price reaction to news and no-news: drift and reversal after headlines', *Journal of Financial Economics*, Vol. 70, 2003, pp. 223-260.

Chaney, P. K. and Devinney, T. M., 'New Product Innovations and Stock Price Performance', *Journal of Business Finance and Accounting*, Vol. 19(5), 1992, pp. 677-695.

Chaney, P. K., Devinney, T. M. and Winer, R. S., 'The Impact of New Product Introductions on the Market Value of Firms', *Journal of Business*, Vol. 64, 1991, pp. 573-610.

Chen, S., Ho, K .W., Ik, K. H., and Lee, C., 'How does strategic competition affect firm values? A study of new product announcements', *Financial Management*, Vol.

31, 2002, pp. 67–84.

Chen, S., Ho, K .W., and Ik, K. H., ‘The wealth effect of new product introductions on industry rivals’, *Journal of Business*, Vol. 78, 2005, pp. 969-996.

Chen, S., Chen, P., and Lin, W., ‘The Impact of Strategic Interaction on Earnings Expectations Associated with Corporate Product Strategies’, *Journal of Banking and Finance*, Vol. 36, 2012, pp. 66-77.

Da, Z., Engelberg, J. and Gao, P., ‘In search of attention’, *Journal of Finance*, Vol. 66, 2011, pp. 1461-1499.

Daniel, K., Hirshleifer, D. and Subrahmanyam, A., ‘Overconfidence, arbitrage, and equilibrium asset pricing’, *Journal of Finance*, Vol. 56, 2001, pp. 921-965.

Davis, D. B., "Beating the Clock," Electronic Business, May 29, 1989, 21-29.

Dougal, C., Engelberg, J., Garcia, D. and Parsons, C. A., ‘Journalists and the Stock Market’, *Review of Financial Studies*, Vol. 25, 2012, pp. 639-679.

Doukas, J. and Switzer, L., ‘The stock market’s valuation of R&D spending and market concentration’, *Journal of Economics and Business*, Vol. 44, 1992, pp. 95-114.

Eddy, R. A. and Saunders, G. B., ‘New product announcements and stock prices’, *Decision Science*, Vol. 11 (1), 1980, pp. 90-91.

Engelberg, J. E. and Parsons, C. A., ‘The causal impact of media in financial markets’, *Journal of Finance*, Vol. 66(1), 2011, pp. 67-97.

Engelberg, J. E., Reed, A. V. and Ringeenberg, M. C., ‘How are shorts informed? Short sellers, news, and information processing’, *Working Paper* (University of North Carolina, 2010).

Fama, E. F. and French, K. R., ‘Common risk factors in the returns on stocks and bonds’, *Journal of Financial Economics*, Vol. 33, 1993, pp. 3–56.

Fang, L.H. and Peress, J., ‘Media coverage and the cross-section of stock returns’, *Journal of Finance*, Vol. 64, 2009, pp. 2023-2052.

Ferguson N. J., Guo M. J., Lam H. Y. T, and Philip D., ‘News Media Content and U.K. Stock Returns’, *Working paper* (Durham University, 2013).

Fosfuri A., and Giarratana M. S., 'Masters of War: Rivals' Product Innovation and New Advertising in Mature Product Markets', *Management Science*, Vol. 55(2), 2009, pp. 181-191.

Gentzkow, M. and Shapiro, J. M., 'Media bias and reputation', *Journal of Political Economy*, Vol. 144, 2006, pp. 280-316.

Griffin, J. M., Hirschey, N. H., Kelly, P. J., 'How important is the financial media in global markets', *Review of Financial Studies*, Vol. 24(12), 2011, pp. 3941-3992.

Gurun, U. G., 'Price for publicity', *Working Paper* (University of Texas at Dallas, 2011).

Heiden, S., Klein, C. and Zwergel B., 'Beyond Fundamentals: Investor Sentiment and Exchange Rate Forecasting', *European Financial Management*, Forthcoming.

Hendricks, K. B. and Singhal, V. R., 'Delays in new product introductions and the market value of the firm: The consequences of being late to the market', *Management Science*, Vol. 43(4), 1997, pp. 422-436.

Jegadeesh, N., and Wu, A. D., 'Word Power: A New Approach for Content Analysis', *Working Paper* (Emory University 2011).

Koku, P. S., Jagpal, S. H. and Viswanath, P. V. 'The effect of new product announcements and preannouncements on stock prices', *Journal of Market-focused Management*, Vol. 2(2), 1997, pp. 183-199.

Kothari, S.P., Li, X. and Short, J., 'The effect of disclosures by management, analysts, and financial press on cost of capital, return volatility, and analyst forecasts: A study using content analysis', *Working Paper* (MIT, 2008).

Loughran, T. and McDonald, B., 'When is a liability not a liability? Textual Analysis, Dictionaries, and 10-Ks', *Journal of Finance*, Vol. 66(1), 2011, pp. 35-65.

Lyon, John D., Brad M. Barber, and Ching-Ling Tsai (1999), "Improved Methods for Tests of Long-Run Abnormal Stock Return," *Journal of Finance*, 54 (1), 165-201.

Mahajan, V., Sharma, S., and Buzzell, R., 'Assessing the impact of competitive entry on market expansion and incumbent sales', *Journal of Marketing*, Vol. 57, 1993, pp. 39-52.

Ozik, G. and Sadka, R., 'Media and investment management', *Working Paper* (Boston College, 2011).

Shiller, R., 'Irrational Exuberance', Princeton, NJ: Princeton University Press, 2000.

Solomon D. H., 'Selective Publicity and Stock Prices', *Journal of Finance*, 2011, Forthcoming.

Sood, A. and Tellis, G. J., 'Do innovations really pay off? Total stock market returns to innovation', *Marketing Science*, Vol. 28(3), 2009, pp. 442-456.

Sorescu, A., Shankar, V. and Kushwaha, T., 'New product preannouncements and shareholder value: Don't make promises you can't keep', *Journal of Marketing Research*, Vol. 44(3), 2007, pp. 468-489.

Subrahmanyam A., 'Behavioural Finance: A Review and Synthesis', *European Financial Management*, Vol. 14(1), 2008, pp. 12-29.

Tetlock, P. C., 'All the news that's fit to reprint: Do investors react to stale information?', *Review of Financial Studies*, Vol. 24, 2011, pp. 1481-1512.

Tetlock, P. C., 'Giving content to investor sentiment: the role of media in the stock market', *Journal of Finance*, Vol. 62(3), 2007, pp. 1139–68.

Tetlock, P. C., Saar-Tsechansky, M. and Mackassy, S., 'More than words: quantifying language to measure firms' fundamentals', *Journal of Finance*, Vol. 63(3), 2008, pp. 1437–67.

Urrutia, J.L. and Vu, J.D., 'Is it good or bad to make the cover of business week?', *Quarterly Journal of Business and Economics*, Vol. 38, 1999, pp. 64-76.

Wittink, D., Ryans, A. and Burrus, N., 'New Products and Security Prices', *Working Paper* (Cornell University, 1982).

Figure 1a
Market-adjusted Abnormal Returns around New Product Announcements that Contain Positive Words

This figure shows the CARs in the 61-day event window (-30, 30) surrounding new product announcements that contain positive words (POS > 0) against announcements without any positive words (POS = 0).

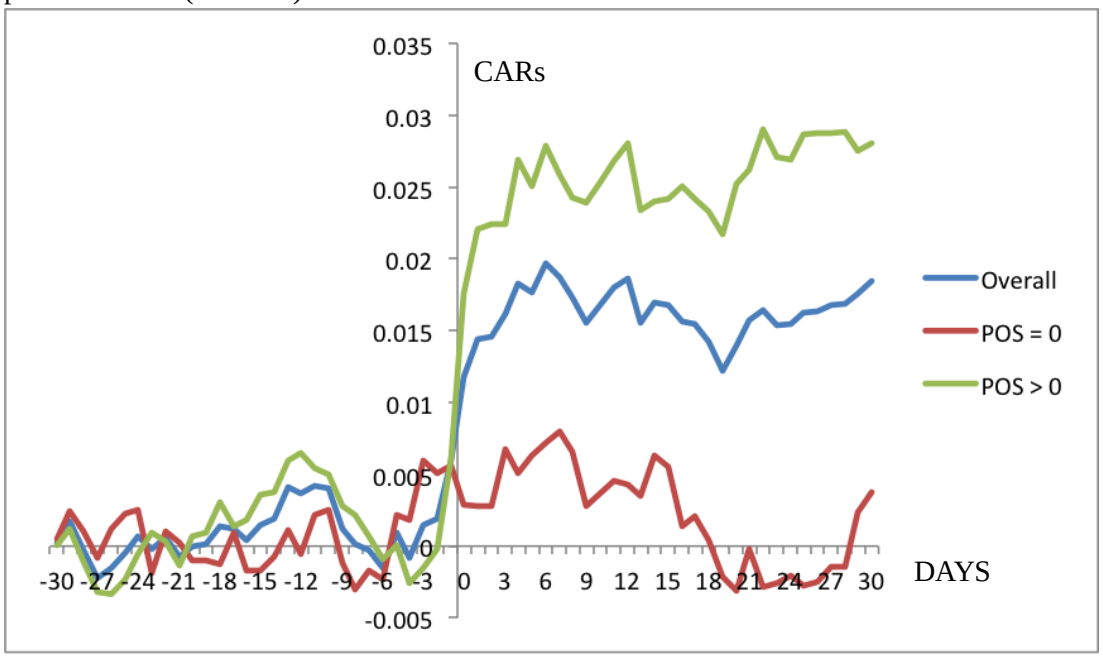

Figure 1b
Market-adjusted Abnormal Returns around New Product Announcements that Contain Negative Words

This figure shows the CARs in the 61-day event window (-30, 30) surrounding new product announcements that contain negative words (NEG > 0) against announcements without any negative words (NEG = 0).

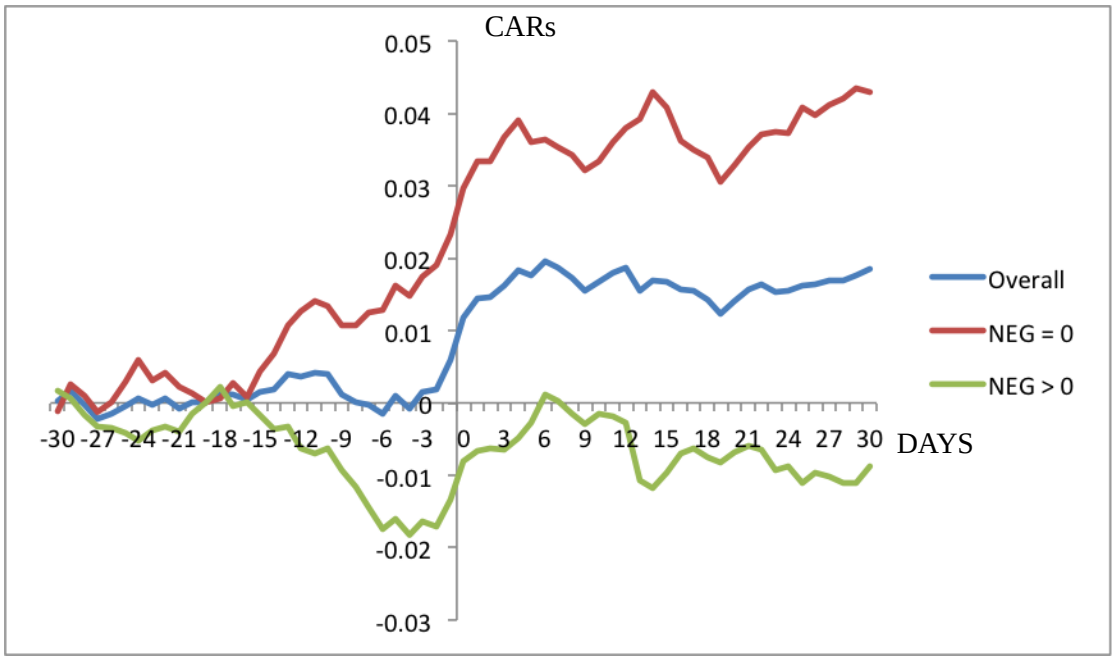

Table 1

Number of New Product Launches Reported in the Press by Year

This table presents the number of new product announcements reported/covered in financial newspaper reports between January 1981 and December 2010. Firm size is the average market capitalization in millions at the announcement date.

Year	Number of products	Number of Firms	Firm Size
1981	27	18	385.57
1982	19	14	240.53
1983	9	8	329.42
1984	8	6	155.68
1985	11	10	1873.99
1986	13	13	1243.69
1987	13	10	2576.49
1988	5	5	2264.01
1989	4	4	1504.63
1990	8	6	6172.96
1991	10	8	3674.93
1992	9	6	8088.93
1993	6	5	4773.30
1994	8	7	6496.90
1995	10	7	12432.88
1996	14	11	7856.86
1997	13	10	2715.79
1998	9	7	24326.63
1999	22	13	14454.49
2000	6	4	23911.85
2001	5	5	12299.02
2002	1	1	80.66
2003	3	3	33717.22
2004	5	5	20027.82
2005	2	2	1520.59
2006	9	7	29881.68
2007	8	6	29783.65
2008	2	2	7354.91
2009	6	6	948.78
2010	5	5	12019.53
Total	270	214	9103.78

Table 2
New Product Announcements by Industry

This table shows the new product announcements by industry. Industries are classified based on the DataStream FTSE Level 2 industry classification. Firm size is the average market capitalization in millions at the announcement date.

ICB Industry	Number of products	Number of firms	Products per firm	% of New products	Firm Size
Basic Materials	11	5	2.20	4.07%	409.95
Consumer Goods	62	23	2.70	22.96%	5468.42
Consumer Services	6	3	2.00	2.22%	1673.20
Health Care	88	18	4.89	32.59%	19583.24
Industrials	63	28	2.25	23.33%	563.81
Technology	35	13	2.69	12.96%	1447.71
Telecommunications	5	4	1.25	1.85%	1524.42
Total	270	94	2.87	100%	7962.98

Table 3
Summary Statistics

This table reports the summary statistics for 270 new product announcements. POS (NEG) is the sum of the number of positive (negative) words in an article's headline and body divided by the sum of the total number of words in the headline and body. MEDIA COVERAGE (MC) is the number of news articles written about the announcement firm. SIZE is the market capitalization (in millions) of a firm at the announcement date. AGE is the number of days from the date of IPO to the date of new product announcement. CAR[-1, +1] is the cumulative abnormal (market adjusted) return in % over the window of [-1, +1]. Industry rivals are firms that are in the same industry as the announcement firms, excluding the announcers. The industries classification is based on the DataStream FTSE Level 4 industries. *, **, *** denotes Z-statistic significance at the 10, 5, and 1% level.

	Mean	Median	S.D.	Minimum	Maximum
POS	0.0077	0.0055	0.0093	0.0000	0.0769
NEG	0.0056	0.0000	0.0080	0.0000	0.0535
SIZE	7963.00	740.00	16933.00	1.00	86173.00
AGE	6848.00	6527.00	4022.00	91.00	16479.00
MC	3.5260	2.0000	5.1020	1.0000	49.0000
Announcing Firms					
CAR[-1, +1]	0.0110	0.0047	0.0554	-0.2774	0.3847
CAR[-2,+2]	0.0123	0.0051	0.0624	-0.2245	0.3872
CAR[-3,+3]	0.0170	0.0104	0.0720	-0.2208	0.4354
CAR[-1, +30]	0.0161	0.0168	0.1562	-1.1879	0.6008
Industry Rival Firms					
CAR[-1, +1]	0.0007	0.0018	0.0232	-0.1883	0.0608
CAR[-2,+2]	0.0038	0.0029	0.0320	-0.1295	0.1305
CAR[-3,+3]	0.0035	0.0038	0.0416	-0.1863	0.2328
CAR[-1, +30]	0.0013	0.0006	0.0111	-0.0447	0.0612

Table 4
Short-term Abnormal Returns around New Product Announcements Sorted by Positive and Negative Word Content

This table reports the cumulative abnormal returns sorted by positive and negative word content. CARs are the mean cumulative abnormal returns in % calculated over different event windows. POS > 0 (NEG > 0) refers to a news article about a new product announcement that contains one or more than one positive (negative) word. POS = 0 (NEG = 0) refers to the news article about a new product announcement that contains no positive (negative) words. Words are classified as 'positive' and 'negative' as in Loughran and McDonald (2010). Diff POS (NEG) is the mean difference of CARs between positive (negative) words and no positive (negative) words. Panel A reports market-adjusted abnormal returns. Panel B reports abnormal returns using the market model. Panel C reports abnormal returns using the Fama French three-factor model. *, **, *** denotes significance at the 10, 5, and 1% level.

Panel A: Market-adjusted Returns

	Positive Content			Negative Content			Diff POS > 0
	POS > 0	POS = 0	Diff POS	NEG > 0	NEG = 0	Diff NEG	& NEG > 0
CAR[-1,+1]	2.2261**	-0.2340	2.4601***	1.0352	1.4460	-0.4108	1.1909*
CAR[-2,+2]	2.3927**	-0.3210	2.7134***	1.0103	1.5942*	-0.5839	1.3824*
CAR[-3,+3]	2.4961***	0.4975*	1.9986**	1.1740*	2.1819	-1.0079	1.3221
CAR[-1,+30]	2.8293**	-0.1360	2.9657*	0.8209	2.4624	-1.6415	2.0084
No. of Obs	163	107		113	157		

Panel B: Market Model Abnormal Returns

	Positive Content			Negative Content			Diff POS > 0
	POS > 0	POS = 0	Diff POS	NEG > 0	NEG = 0	Diff NEG	& NEG > 0
CAR[-1,+1]	2.2088*	-0.1699	2.3787***	0.9197	1.6074	-0.6877	1.2891*
CAR[-2,+2]	2.2893**	-0.1848	2.4741***	0.8580	1.7483	-0.8903	1.4313**
CAR[-3,+3]	2.3736***	0.5696*	1.8040**	0.9574*	2.3274	-1.3700	1.4162*
CAR[-1,+30]	1.8556*	-0.2413	2.0969	-0.2813	2.2603	-2.5416	2.1369
No. of Obs	163	107		113	157		

Panel C: Fama-French Three-Factor Model Abnormal Returns

	Positive Content			Negative Content			Diff POS > 0
	POS > 0	POS = 0	Diff POS	NEG > 0	NEG = 0	Diff NEG	& NEG > 0
CAR[-1,+1]	2.2641**	0.0278	2.2363***	0.9132	2.0867	-1.1735	1.3509**
CAR[-2,+2]	2.4214*	-0.2194	2.6408***	0.9348	2.0895	-1.1547	1.4866**
CAR[-3,+3]	2.6487***	0.5920	2.0567**	1.0986*	2.8317	-1.7331*	1.5501*
CAR[-1,+30]	2.0999*	-0.4838	2.5837	0.3196	2.1348	-1.8152	1.7803
No. of Obs	163	107		113	157		

Table 5

Short-term Abnormal Returns around New Product Announcements Sorted by Positive and Negative Word Content (No Additional News vs. Additional News)

This table reports the cumulative abnormal returns sorted by positive and negative word content. CARs are the mean cumulative market-adjusted abnormal returns in % calculated over different event windows. POS > 0 (NEG >0) refers to a news article about a new product announcement that contains one or more than one positive (negative) word. POS = 0 (NEG = 0) refers to the news article about a new product announcement that contains no positive (negative) words. Difference POS (NEG) is the mean difference of CARs between positive (negative) words and no positive (negative) words. Panel A (B) reports CARs with Positive (Negative) Content. *, **, *** denotes significance at the 10, 5, and 1% level.

Panel A: Positive Content

	No Additional News			Additional News			Without POS >0 –
	POS > 0	POS = 0	Diff POS	POS > 0	POS = 0	Diff POS	With POS >0
CAR[-1,+1]	2.2467*	-0.3543	2.6010**	2.2128*	-0.0855	2.2983***	0.0339
CAR[-2,+2]	3.5164**	-0.4727	3.9893***	1.6662	-0.1338	1.8000*	1.8502
CAR[-3,+3]	3.8245**	-0.0262	3.8507***	1.6373	1.1412	0.4961	2.1872
CAR[-1,+30]	2.4750*	-0.5823	3.0573	3.0583*	0.4117	2.6466	-0.5833
No. of Obs	132	60		53	25		

Panel B: Negative Content

	No Additional News			Additional News			Without NEG > 0
	NEG > 0	NEG = 0	Diff NEG	NEG > 0	NEG = 0	Diff NEG	–With NEG > 0
CAR[-1,+1]	0.0516	1.9311	-1.8795	1.9307	1.0699	0.8608	-1.8791**
CAR[-2,+2]	0.4684	2.7192	-2.2508*	1.5037	0.7223	0.7814	-1.0353
CAR[-3,+3]	0.7093	3.2250	-2.5157*	1.5969	1.3734	0.2235	-0.8876
CAR[-1,+30]	-1.7714	3.7435	-5.5149**	3.2083	1.3447	1.8636	-4.9797*
No. of Obs	85	122		36	27		

Table 6
Abnormal Returns and the Media Word Content of New Product Announcements

This table reports results from the OLS regression:

$$CAR_{(-2,+2)} = \alpha_i + \beta_1 POS + \beta_2 NEG + \beta_3 MC + \beta_4 \ln(SIZE) + \beta_5 \ln(AGE) + \beta_6 PLC + \beta_7 POS*SIZE + \beta_8 POS*AGE + \beta_9 FREQUENT + \varepsilon_i$$

The dependent variable is the cumulative market-adjusted abnormal returns two days before and two days after the new product announcement ($CAR_{(-2,+2)}$). POS (NEG) is the sum of the number of positive (negative) words in an article's headline and body divided by the sum of the total number of words in the headline and body. Media Coverage (MC) is the number of news articles written about the company. SIZE is the market capitalization of a firm at the announcement date. AGE is the number of days from the date of IPO to the date of new product announcement. Product life cycle (PLC) takes 1 for Technology and Telecommunications industries (see Table 2 for industry classifications) and zero for the rest. FREQUENT equals 1 for frequent announcers and zero for single-product announcement during our sample period. CONFOUND equals 1 if there are additional news events during the announcement period and otherwise zero. Robust standard errors are in parentheses. *, **, *** denotes significance at the 10, 5, and 1% level.

	Market Adjusted Return			Market Model			Fama French Three Factor Model		
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
INTERCEPT	0.1224**	0.1326**	0.0651	0.1204*	0.1188**	0.1328*	0.1153*	0.1156*	0.0375
	(0.0583)	(0.0567)	(0.0624)	(0.0622)	(0.0601)	(0.0709)	(0.0639)	(0.0616)	(0.0701)
POS	0.7473*	0.7686*	11.367**	0.7593*	0.7842*	5.3770***	0.6933	0.6785	11.6600**
	(0.4490)	(0.4351)	(4.408)	(0.4597)	(0.4426)	(1.5390)	(0.4911)	(0.4718)	(4.8660)
NEG	-0.4864	-0.8645	-0.9214	-0.5437	-0.9604*	-6.5680	-0.46963	-0.9159	-0.9900*
	(0.5754)	(0.5655)	(0.5623)	(0.5868)	(0.5730)	(5.5480)	(0.6040)	(0.5896)	(0.5890)
MC		0.0005	0.0003		0.0005	0.0003		0.0005	0.0003
		(0.0008)	(0.0008)		(0.0008)	(0.0008)		(0.0008)	(0.0008)
SIZE		-0.0104***	-0.0065**		-0.0116***	-0.0073**		-0.0120***	-0.0083**
		(0.0025)	(0.0029)		(0.0026)	(0.0030)		(0.0027)	(0.0033)
AGE	-0.0142**	-0.0064	0.0002	-0.0138**	-0.0030	-0.0059	-0.0123**	-0.0011	0.0063
	(0.0056)	(0.0057)	(0.0067)	(0.0060)	(0.0063)	(0.0074)	(0.0062)	(0.0065)	(0.0078)

POS * SIZE			-0.4237*			-0.6172***			-0.3567
			(0.2267)			(0.2005)			(0.2520)
POS * AGE			-0.8592			0.6595			-0.9506
			(0.5707)			(0.6405)			(0.6394)
PLC	-0.0623*	-0.0512	-0.0513	-0.0584	-0.0755	-0.0734	-0.0583	-0.0773	-0.0729
	(0.0371)	(0.0360)	(0.0354)	(0.0503)	(0.0486)	(0.0478)	(0.0514)	(0.0496)	(0.0487)
FREQUENT	-0.0067	0.0045	-0.0004	-0.0061	0.0072	0.0023	-0.0107	0.0008	-0.0023
	(0.0113)	(0.0113)	(0.0112)	(0.0117)	(0.0117)	(0.0116)	(0.0128)	(0.0126)	(0.0125)
CONFOUND	0.034	0.0193	-0.0176	0.004	-0.139	0.051	-0.002	-0.098	0.011
	(0.072)	(0.0389)	(0.014)	(0.0039)	(0.177)	(0.129)	(0.009)	(0.071)	(0.066)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yearly fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2(%)	5.4	11.2	14.7	3.1	10.2	13.4	1.5	9.1	12.3
Observations	270	270	270	266	266	266	238	238	238

Table 7
The Word Content of Newspaper Reports and Investor Attention

This table reports the Google Abnormal Search Volume (ASVI) for positive and negative word content in newspaper reports. ASVI is calculated as the difference between the logarithm of SVI during week *t* and the logarithm of the median value of SVI during the prior eight weeks as in Da et al. (2011). "Positive" and "Negative" are measured by counting the number of positive and negative words according to the Loughran and McDonald (2011) dictionaries and dividing this by the total number of words of each article. "Pessimism" is the difference between the "Negative" and "Positive" variables. The median is used to divide the sample into low and high groups based on Positive (Panel A), Negative (Panel B) and Pessimism (Panel C). *, **, *** denotes significance at the 10, 5, and 1% level. The sample period is from January 2004 to December 2010.

	$ASVI_{t-1}$	$ASVI_{t}$	$ASVI_{t+1}$	$\Delta(ASVI_{t} - ASVI_{t-1})$	$\Delta(ASVI_{t} - ASVI_{t+1})$
Panel A: Positive					
Low Positive Words	0.0313	0.0272	0.0207	0.0041	0.0065
High Positive Words	0.0208	0.0408	-0.0176	0.0200	0.0584**
Panel B: Negative					
Low Negative Words	0.0221	0.0466	-0.0028	0.0245	0.0493*
High Negative Words	0.0295	0.0226	0.0044	-0.0069	0.0181
Panel C: Pessimism					
High Pessimism	0.0439	0.0293	0.0239	-0.0147	-0.0053
Low Pessimism	0.0088	0.0388	-0.0207	0.0300	0.0595**

Table 8
Short-term Abnormal Returns around New Product Announcements Sorted by Announcing Firms and their Industry Rivals

This table presents the cumulative average abnormal returns of a two-day period around the new product announcement date. CAR is based on the market-adjusted abnormal returns in % for both announcements firms ($ACAR_{(0,1)}$) and their industry rivals ($ICAR_{(0,1)}$). The industries classification is based on the DataStream FTSE Level 4 industries. TECH is technologically-based industries including Electronic & Electrical Equipment, Mobile Telecommunications, Pharmaceuticals & Biotechnology, Software & Computer Services and Technology Hardware & Equipment. The significance tests using the Z-statistic described in Dodd and Warner (1983). *, **, *** denotes significance at the 10, 5, and 1% level.

	Announcing Firms		Industry Rivals		Diff
	Firms	ACAR	Firms	ICAR	
Overall	90	0.8475	729	0.0407	0.8068***
TECH	31	1.5784	102	0.1126	1.4658***
NON-TECH	59	0.2714	627	-0.0291	0.3005
Aerospace & Defense	1	0.6939	12	0.1543	0.5396
Automobiles & Parts	3	-1.4083	11	-2.9449	1.5366
Beverages	6	0.6180	12	-0.0226	0.6406
Chemicals	3	0.0178	26	0.9048	-0.8870
Construction & Building Materials	4	-0.2465	37	-0.2476	-0.0011
Electronic & Electrical Equipment	4	1.1463	28	0.4606	0.6857
Fixed Line Telecommunications	3	-2.6245	11	-0.6587	-1.9658
Food & Drug Retailers	1	-1.3544	17	0.9137	-2.2681
Food Producers	4	0.6251	29	0.3793	0.2458
General Industrials	1	-1.3456	12	-0.7611	-0.5845
General Retailers	1	0.8183	66	0.7532	0.0651
Healthcare Equipment & Services	5	0.3844	16	-0.2486	0.6329
Household Goods	2	3.2740	37	0.5285	2.7454
Industrial Engineering	13	0.3857	46	0.5154	-0.1297
Industrial Metals	1	-8.8658	6	-6.1797	-2.6860
Industrial Transportation	1	5.4340	30	-0.7119	6.1459
Leisure Goods	4	0.8171	14	-0.5114	1.3285
Mining	1	-0.7983	28	0.2661	-1.0644
Mobile Telecommunications	1	-1.5915	1	0.0000	-1.5915
Personal Goods	1	-2.3087	20	0.2286	-2.5373
Pharmaceuticals & Biotechnology	13	1.4833	21	-0.0935	1.5768**
Software & Computer Services	8	-0.0335	37	1.1441	-1.1776
Support Services	4	0.2773	85	1.1168	0.8395
Technology Hardware & Equipment	5	3.5786	15	-0.0614	3.6400**
Tobacco	2	-1.1574		-0.7788	-0.3786
Travel & Leisure	1	0.1095	60	3.0636	-3.1732

Table 9

Short-term Abnormal Returns around New Product Announcements Sorted by Positive and Negative Word Content for Announcing Firms and their Industry Rivals

This table reports the two-day cumulative abnormal returns CAR (0, 1) sorted by positive and negative word content. CARs are the mean cumulative market-adjusted abnormal returns in % calculated over different event windows for both announcements firms and their industry rivals. The industries classification is based on the DataStream FTSE Level 4 industries. Industry Rivals' Return is the equally-weighted portfolio for the all firms in the same industry. POS > 0 (NEG >0) refers to a news article about a new product announcement that contains one or more than one positive (negative) words. POS = 0 (NEG = 0) refers to the news article about a new product announcement that contains no positive (negative) words. Panel A (B) reports CARs with positive (negative) Content. *, **, *** denotes significance at the 10, 5, and 1% level.

Panel A: Positive Content

	POS > 0			POS = 0		
	Announcing Firms	Industry Rivals	Diff POS > 0	Announcing Firms	Industry Rivals	Diff POS = 0
Tech	2.6851***	0.0157	2.6694***	-0.5441	0.2953	-0.8395*
Non-Tech	0.4283	0.0752	0.3530	-0.0982	-0.1551	0.0569
Overall	1.5913***	0.0442	1.5471***	-0.2860	0.0353	0.3213

Panel B: Negative Content

	NEG > 0			NEG = 0		
	Announcing Firms	Industry Rivals	Diff NEG > 0	Announcing Firms	Industry Rivals	Diff NEG = 0
Tech	1.1245	0.0572	1.0673***	0.1821	-0.0330	0.2149
Non-Tech	1.9414	0.1646	1.7768**	0.1996	-0.0245	0.2241
Overall	0.6680	0.0136	0.6544**	1.0092	0.0634	0.9458**

Table 10

Abnormal Returns of Industry Rivals and the Media Word Content of New Product Announcements

This table reports results from the OLS regression: $ICAR_{(0,1)} = \alpha_i + \beta_1 ACAR_{(0,1)} + \beta_2 POS + \beta_3 NEG + \beta_4 POS*ACAR_{(0,1)} + \beta_5 NEG*ACAR_{(0,1)} + \beta_6 MC + \beta_7 \ln(SIZE) + \beta_8 \ln(AGE) + \beta_9 PLC + \beta_{10} FREQUENT + \varepsilon_i$ The dependent variable is the cumulative market-adjusted abnormal returns two days before and two days after the new product announcement ($CAR_{(0,1)}$). POS (NEG) is the sum of the number of positive (negative) words in an article's headline and body divided by the sum of the total number of words in the headline and body. Media Coverage (MC) is the number of news articles written about the company. SIZE is the market capitalization of a firm at the announcement date. AGE is the number of days from the date of IPO to the date of the new product announcement. Product life cycle (PLC) takes 1 for Technology and Telecommunications industries (see Table 2 for industry classifications) and zero for the rest. FREQUENT equals 1 for frequent announcers and zero for single-product announcement during our sample period. Robust standard errors are in parentheses. *, **, *** denotes significance at the 10, 5, and 1% level.

	Industry Rivals Returns			
Independent Variables	(1)	(2)	(3)	(4)
	ALL	TECH	ALL	TECH
INTERCEPT	-0.0154	-0.0169	-0.0125	-0.0096
	(0.0153)	(0.0278)	(0.0143)	(0.0109)
ACAR	0.0572**	0.0486	0.1589***	0.2162***
	(0.0197)	(0.0398)	(0.0449)	(0.0552)
POS	-0.0845	-0.4005	-0.0409	-0.2657
	(0.0792)	(0.5285)	(0.0847)	(0.3265)
NEG	0.1189	0.1365	0.1191	0.1310
	(0.0987)	(0.1377)	(0.0823)	(0.0788)
POS*ACAR			-6.6250**	-9.8210**
			(2.3917)	(3.3982)
NEG*ACAR			-5.1050	-8.0250
			(3.4876)	(5.776)
MC	0.0006	0.0021	0.0005	0.0016
	(0.0011)	(0.0019)	(0.0007)	(0.0021)
SIZE	0.0017**	0.0011	0.0016**	0.0008
	(0.0005)	(0.002)	(0.0006)	(0.0009)
AGE	-0.0004	-0.0008	-0.0008	-0.0015
	(0.0018)	(0.0052)	(0.0009)	(0.0203)
PLC	0.0045	0.0228	0.0057	0.0195
	(0.0032)	(0.0401)	(0.006)	(0.091)
FREQUENT	-0.0004	0.0002	0.0006	0.0037
	(0.002)	(0.0018)	(0.0032)	(0.098)
Industry fixed effects	Yes	Yes	Yes	Yes
Yearly fixed effects	Yes	Yes	Yes	Yes
Adj R^2(%)	2.1	0.4	3.3	5.5
Observations	270	132	270	132

Appendix:
Media Article with Positive Words
Title: Javaphone Puts World at Your Call. *The Times 1998*

Play the stock market, send e-mail or browse the Web - all from your mobile phone. Mobile telephones could soon be used for home banking, Web browsing and much more following the launch by top smart card manufacturer De La Rue Card Systems of the first Java-powered SIM (Subscriber Identification Module) card toolkit.

"This development will really open the doors to a whole new diverse range of services for the mobile cellular user", says Amedeo D'Angelo, De La Rue's managing director. "Using our solution, operators will be ***able*** to access new and ***profitable*** revenue streams by creating tailored services that they can target and download to the user. It transforms the phone from a communications device into an information source, generating a new platform for the convergence of cellular telephony with other industries, including banking".

The launch means that any of the hundreds of thousands of Java programs in the world can now write applications, which could run on a GSM telephone. Other manufacturers had announced proprietary solutions using their own operating systems and software, but De La Rue's system means that the possibilities are now increased by several orders of magnitude.

Sun, the computer company which developed and owns Java, is ***delighted.*** "This is ***good*** news for software developers and the industry at large", says Sun Microsystems' director of consumer transactions at Javasoft, Patrice Peyret. "By being based on Java, the De La Rue SIM toolkit will ***enable*** cellular phone users to take ***advantage*** of a broad new suite of services".

Mobile phone users will soon be given ***easy*** access to text-based information such as travel news, weather and stock exchange reports wherever they happen to be in the world. They will also be ***able*** to send and receive e-mail while on the move, following agreements between De La Rue and ***leading*** information providers GIN, Sendit and Posodie.

The Java platform means that users will be ***able*** to have several applications on one card and - with ***versatile*** dual-card telephones due to be launched shortly which could have more than one smart chip on each smart card - the range of potential uses is enormous.

Now, say insiders at De La Rue, the main problem is going to be persuading the card issuer to allow others to download their applications on to the card. "It's a political, not a technical problem now - it needs the company which issues and owns the card to open up access to third parties", said one company executive.

Media Article with Negative Words

Title : Surgical Glove to Help Reduce Risks. *The Financial Times 1993*

A SURGICAL GLOVE designed to reduce risks of cross-infection is being launched today by London International Group. The glove has two layers. If the outer one is punctured and the inner one ***exposed*** to fluid, such as blood, it shows up green, ***alerting*** the surgeon to the puncture.

LIG, which also makes condoms and toiletries, is putting emphasis on new products at a time when group profits have been hit by ***losses*** at its photo-processing subsidiary. Last month Mr Tony Butterworth, LIG group executive took early retirement after Mr Alan Woltz, chairman, ***warned*** that profits in the first half of 1993 would be 'very substantially lower'. Studies suggest that surgeons cut their gloves in 40% of operations. Often they do not realize they have done so, ***exposing*** both surgeon and patient to risk of infection, such as from HIV or hepatitis.