

This is a postprint version of the following published document:

Gutiérrez, M., Papiashvili, N., Tribó, J. A., & Vazquez, A. B. (2019). Managerial incentives for attracting attention. *European Financial Management*, 26, pp. 896–937

DOI: [10.1111/eufm.12248](https://doi.org/10.1111/eufm.12248)

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MANAGERIAL INCENTIVES FOR ATTRACTING ATTENTION¹

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¹We thank Andrés Almazán, José Marín as well as participants at the European Finance Management Association Conference (Barcelona, 2012), the Foro de Finanzas (Granada, 2011) and internal seminar at Carlos III University (2013). Financial support of the Comunidad de Madrid (Grant # 2009/00138/001, 2011/00099/001 and S2015/HUM-3353, EARLYFIN-CM) and Ministry of Science and Innovation (Grant # ECO2009-10796, ECO2009-08308, ECO2012-36559 and Consolider Grant # CSD2006-16) is gratefully acknowledged.

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Abstract

This paper studies the mechanisms which motivate and allow managers to engage in cheap talk and attract market's attention in a credible way. We consider stock split announcements, voluntary earnings forecasts and press releases issued by firms to the media as proxies for managerial cheap talk. Using a sample of 3,332 US firms for the 1992-2011 period, we show that: (i) managerial performance-related pay contracts incentivize executives to attract attention; (ii) analysts increase their coverage of firms following the use of the aforementioned proxies of cheap talk; (iii) chief executive officers get punished for attracting attention when market prices do not increase following cheap talk.

Keywords: Voluntary Disclosures, Attracting Attention, Cheap Talk, CEO Compensation, Managerial Incentives.

JEL codes: G30, G32, G34

1. Introduction

The corporate finance literature, starting with Modigliani and Miller, studies how managerial decisions can increase firm value. Specialized management leads to better decision making but it forces the separation of ownership and control and generates asymmetric information between managers and shareholders. This leads to an agency problem that destroys firm value. Therefore, reducing this asymmetric information problem by finding credible ways to transmit information to investors becomes a crucial part of managers' job.

In particular, managers will have to make decisions about two different types of information that is generated inside the firm and must be communicated to the outside investors - hard and soft information. On the one hand, there are pieces of information about the company that can be codified in a systematic way and that can be verified by the receivers of this information. This is the so-called hard information such as sales volume or board appointments. On the other hand, there exists soft information related to intangibles like managers' ability, firm strategy, employee morale etc. that a third party cannot verify. Soft information can be as important as hard information for investors to monitor (Cornelli, Kominek, and Ljungqvist (2013)). Remarkably, chief executive officers (CEOs) enjoy large discretion over the disclosure of soft information and they can use it in a strategic way in order to pursue their own interests. Consequently, understanding what makes soft information credible is particularly important.

Managers can credibly transmit soft information in two ways. First, they can use signals with direct and explicit costs for the firm, like leverage or dividends, which make these signals credible. Second, they can use cheap talk as explained by Bhattacharya and Dittmar (2008) and Almazan, Banerji, and Motta (2008). Here cheap talk is understood as a call for attention that at a glance does not seem to require any effort or cost. Unlike traditional signals that require the firm to do something costly to attract

attention, using cheap talk works because attracting attention is costly because it puts the reputation of the CEO at a higher risk. A clear visual example of this is to picture a manager that sits in a crowded market floor with many other managers. Our manager suddenly raises a red flag to make his firm stand out and attract investors' attention. But, if cheap talk is really as cheap as raising a red flag, all managers could do it. And, if all managers raise flags, this fails to make the firm stand out. This implies that cheap talk can only work if it is not cheap in some subtle way. In fact, raising a red flag has significant indirect costs for managers. This happens because raising the flag attracts analysts' and investors' attention and induces them to engage in a costly revision of their valuation of the firm. If, after revisiting the firm, the market is unconvinced and the firm's market value does not increase the manager will bear some costs for improperly attracting such attention because his remuneration and tenure are linked to stock market prices. Hence, not all managers will raise flags. Managers will disclose soft information truthfully, and only raise flags when they think that their firms are undervalued. Therefore, the mechanism for costly transmission of soft information through cheap talk requires that market players understand the use of cheap talk as a call for attention, revisit the firm, revise their previous analysis and update their expectations about the firm. Investors will take the call for attention seriously because in case the updated expectations fail to improve on the previous ones, CEOs will be punished with lower compensation or removal from their positions.

This paper tests empirically the mechanisms that motivate and allow managers to credibly transmit soft information to the market relying on the theoretical work of Almazan, Banerji and Motta (2008). We present evidence showing that managers whose compensation is more sensitive to stock market prices engage more in cheap talk in order to attract investors' attention. Moreover we find that managers are also more likely to face dismissal and/or a reduction in their pay packages when, after engaging in cheap talk, stock returns do not increase. This is consistent with the idea that soft information

can be credibly transmitted through the use of cheap talk because managers are punished when their attempts at attracting attention fail to produce an upwards price reaction.

The empirical analysis relies on a sample of 3,332 US firms for the 1992-2011 period and analyzes three different proxies for cheap talk: stock split announcements, CEO voluntary earnings forecasts and press releases issued by the firm to the media. Our three main results are consistent with the predictions from the theoretical framework.

The first result indicates that an increase in the proportion of variable compensation in CEOs' pay packages that is linked to stock market prices induces managers to use cheap talk strategies. In particular, it turns out that 1% increase in the proportion of variable part in CEOs' remuneration packages is correlated with (i) 7.3% increase in the probability of announcing stock splits, (ii) 3.26 more annual CEO earnings forecast and (iii) around 17 more press releases initiated by a firm each year.

Our second main finding is that the use of these measures serves to attract market's attention, as there is an increase in the analyst following of the firm, both, in terms of the number of earnings per share (EPS) forecasts issued by analysts and the proportion of upward revisions in their estimates. In particular, annual cumulative number of EPS forecasts issued by analysts for a given firm increases by (i) around 131 with one standard deviation increase in the number of stock split announcements (0.26 more announcements); (ii) 1 with one standard deviation increase in the number of CEO EPS forecasts (2 more annual CEO EPS forecasts), although not significantly; (iii) by 15 with one standard deviation increase in the number of press releases per year (81 more articles).

Finally, we find evidence consistent with the idea that cheap talk works as a credible signal because it is costly for managers i.e. CEOs are punished with a higher probability of turnover and/or a reduction in their total subsequent compensation if cheap talk is

followed by negative stock price reaction. More specifically, for the sample mean value of (i) stock splits 1% decrease in returns following stock splits is associated with 2.6% higher probability of CEO turnover and \$1.08 million decrease in CEO total compensation; (ii) CEO EPS forecasts, 1% decrease in the fiscal year-end firm returns results in a 0.54% increased probability of CEO turnover and a \$0.22 million decrease in the subsequent CEO compensation; (iii) press releases 1% decrease in the fiscal year-end firm returns results in approximately \$0.38 million decrease in the subsequent CEO compensation.

The rest of the paper is organized as follows. Section 2 covers the related theoretical and empirical literature. Section 3 discusses data and methodological issues. Section 4 presents main results, Section 5 is devoted to robustness checks and Section 6 concludes.

2. Related Literature and Contribution

The disclosure policy of a firm will determine how much and how fast information about the firm reaches the market. A firm will be considered more transparent (opaque) when it delivers more (less) information or more (less) frequent information to the market. Managers can credibly transmit positive soft information to the market by using signals. In an asymmetric information world where the amount of bad projects exceeds the amount of good ones, the role for signaling is critical for an efficient functioning of stock markets.

The topic of costly signaling has been addressed extensively in the theoretical literature, starting with the seminal contributions of Spence (1973), Brealey, Leland, and Pyle (1977) and Ross (1977). The signaling literature relies on the idea that signals are credible because they are costly for the firm. However, some recent theoretical papers have also discussed potential credibility and informational content of apparently costless announcements (cheap talk). Bhattacharya and Dittmar (2008) build a

theoretical model where costless announcements convey valuable information to the market. The intuition behind this result is that good firms can attract the attention of analysts and speculators by making costless announcements and bad firms will not mimic them for the fear of being discovered and of risking a drop in their stock prices. Therefore, what may seem like costless announcements, turns out not to be costless in the end. Their cost comes from attracting attention of informed parties who can update their valuation and put more pressure on managers. The authors also show that only the more undervalued and more ignored firms will use costless signals as a transmission mechanism because only high potential gains will compensate analysts and investors for the costs of discovering new information.

Our paper builds on the theoretical model by Almazan, Banerji, and Motta (2008) who discuss cheap talk in the context of an agency problem between managers and shareholders. They present a model where managers who have positive information about their firms can use cheap talk in order to attract attention of analysts and speculators. The authors show that the optimal managerial contract in this setting includes both a bonus for stock price appreciation following cheap talk (which gives incentives for engaging in cheap talk) and CEO wealth consequences if market prices do not react positively to cheap talk (which makes this contract costly for the CEO and the information credible for investors). In this paper we contribute to the literature on soft information transmission and the use of seemingly costless announcements to transmit credible information to the market by testing empirically the theoretical predictions of Almazan, Banerji, and Motta (2008). In particular, we confirm that the mechanisms presented in their paper generate the correct incentives for the manager to engage in cheap talk and transform it into credible signals that analysts and investors react to.

Clearly, the main difficulty for studying cheap talk empirically is to find good proxies for red flags. Here we follow the empirical literature that has identified positive

market reactions to managerial decisions that do not have a clear cost for the firms that use them. Specifically, there is ample evidence of a positive average market reaction to discretionary and seemingly costless announcements such as stock splits, stock dividends, media appearances and voluntary announcements (Patell (1976), Penman (1982), Grinblatt, Masulis, and Titman (1984), Lakonishok and Lev (1987), Pownall, Wasley, and Waymire (1993), Ikenberry, Rankine, and Stice (1996)). However, there is no complete agreement on whether these announcements are really costless for firms. We were unable to find studies evaluating the incentives and costs for managers as initiators of these actions. Therefore, our contribution to this empirical literature is to show that these actions can work as credible “cheap talk” signals whether or not they are costless for the firm because the use of these measures is actually costly for the CEO when they fail to achieve a positive market reaction.

There is large empirical literature on the market reaction to our first proxy for cheap talk - stock split announcements. Grinblatt, Masulis, and Titman (1984) show that stock splits and stock dividend announcements are usually followed by favorable changes in stock prices. Lakonishok and Lev (1987) also document a 3 to 5% positive abnormal return around the dates of stock split announcements.

These results are explained in two different ways. For most authors stock splits are cosmetic events that do not impact the underlying cash flows of the firm and do not imply any cost. They are aimed at attracting small investors because they lower the share price to a range that makes it affordable for small investors to diversify across multiple securities. Ball, Brown, and Finn (1977) point out that “splits sometimes are regarded as means of altering market prices of shares to bring them into a more “popular” price level and so to “broaden” the market for the share, which presumably implies a lower price”³. Muscarella and Vetsuypens (1996) also present evidence

³ Baker and Gallagher (1980), after surveying executives of stock splitting companies, report that 94% of the interviewees indicated that stock splits moved share prices into an “optimal trading range”.

consistent with this idea. The second explanation of price movements related to stock splits is that they convey credible information about the performance of the firm because they are costly for the firm. Brennan and Copeland (1988) argue that splits are credible signals because of the increased transaction costs in trading for lower-priced shares. In this line, Brennan and Hughes (1991) argue that stock splits are a credible way of attracting attention of financial analysts working for brokerage houses because commissions are decreasing in stock price. Therefore, only companies that have good information to convey to the market will be willing to incur the higher trading costs of a lower price range. Conroy and Harris (1999) address the informational content of stock split announcements as well. They find that larger split sizes lead to superior analyst earnings forecasts, which according to them is a direct confirmation of the informational content of stock split announcements. However, all of these papers only consider the benefits or costs of stock splits from the shareholders' point of view and they do not take into account the specific incentives of managers who initiate these operations. Therefore, we also contribute to the literature on stock splits by providing empirical evidence showing that an alternative explanation for the positive market reaction to stock splits is their use by managers who have incentives for attracting attention and for which they will be punished if they fail to obtain a positive market reaction.

The second proxy for cheap talk is CEOs' voluntary announcements. Managers can use voluntary earnings forecasts to guide investors and analysts through the firm's coming earnings and general performance. Recent financial research has examined the informational content of CEO voluntary earnings forecasts (Anilowski, Feng, and Skinner (2007), Atiase, Rees and Tse (2010), Das, Kim, and Patro (2012)) and found that they have a positive impact on stock prices (Patell (1976), Penman (1982), Pownall, Wasley, and Waymire (1993)) given that they reduce information asymmetry (Coller and Yohn (1997), Francis, Douglas Hanna, and Philbrick (1997)) and affect analyst forecast revisions (Baginski and Hassell (1990), Francis, Douglas Hanna, and Philbrick

(1997)). Therefore, CEOs' voluntary announcements serve to communicate information to the market and attract investors' attention, just like stock splits.

The last proxy we use for cheap talk is firm's attempts to attract media attention. The literature on media coverage documents significant market reactions to increased media attention. Nofsinger (2001) finds that longer articles in the Wall Street Journal induce individual investors to trade more. Chan (2003) analyzes the issue of media attention and finds that investors underreact to bad news and that the portfolio of firms that receive media attention (for which good or bad news are reported) outperforms the portfolio of firms with no news. Dyck and Zingales (2003) find that prices of stocks emphasized by the press are more reactive to earnings announcements. Barber and Odean (2008) confirm that individual investors are net buyers of attention grabbing stocks (i.e. stocks in news). Peress (2008) finds that announcements with more media coverage generate higher prices and trading reactions. Therefore, it seems that attracting media attention is a strategy that pays off given that it generates positive stock reaction in a cheap way.

To sum it all up, the empirical literature finds that many types of discretionary actions with no clear costs for the firms that announce them like stock splits, CEO voluntary forecasts or press releases convey valuable information to the market. Some authors claim that this way of conveying information is credible when the discretionary action is costly for the firm (e.g. stock splits could lead to higher trading costs for investors; CEO voluntary announcements and/or more exposure in the media could lead firms to face more pressure from investors) and therefore, only "good" firms with sound financial conditions will make these decisions. In this paper we provide evidence showing that these discretionary actions are analogous to having the manager raise a red flag to attract attention and that, even if they are costless for the firm, they are credible because they are costly for the manager who attracts analysts' attention leading to the reassessment of stock value. The cost becomes obvious when such reassessment results

in unfavorable changes in the stocks' market value, managerial compensation and turnover.

As mentioned before, the testable hypotheses of the paper are based on the theoretical model of cheap talk in Almazan, Banerji, and Motta (2008). Managers who have positive information about their firms can use different actions in order to attract analysts' and/or investors' attention who, in turn, investigate the firm, produce new information, and correct potential undervaluation problems. The actions of the managers are credible because they are costly for them: executive variable compensation can increase if the announcements result in higher stock prices, but CEOs may face an increased possibility of dismissal or lower future compensation if stock prices decrease following the announcements.

Based on this theoretical argument, we use the mentioned proxies for cheap talk and test three different predictions from the model in Almazan, Banerji, and Motta (2008). We first test whether different managerial remuneration schemes are associated with more or less CEO cheap talk. In particular, the hypothesis is that CEOs with more variable compensation tied to stock market prices should be more likely to attract attention through stock splits, EPS forecasts and press releases. This is the first hypothesis to be contrasted:

Hypothesis 1: CEOs with a larger share of variable compensation in their pay packages (through either bonuses, stocks or stock options) are more likely to use cheap talk by announcing stock splits, issuing voluntary earnings forecasts and/or increasing firm initiated press releases.

Once CEOs make announcements, there are two types of agents who should react and exercise upward or downward pressure on stock market prices. First, professional analysts whose attention has been attracted by cheap talk; second, investors who react either directly to the announcements or indirectly by following analysts' recommendations. Thus, the second hypothesis to be tested is the following:

Hypothesis 2: Financial analysts are more likely to issue and update earnings estimates for firms that have announced stock splits, issued voluntary earnings forecasts and/or increased press releases.

Finally, for these announcements to be credible, it is necessary that managers are unable to play the market i.e. attracting attention is not a free lunch for CEOs. Thus, a significant negative market return in the period following the announcement should be correlated with a higher probability of dismissal or lower subsequent compensation for managers. This leads us to the third testable hypothesis:

Hypothesis 3: The probability of turnover is higher and total subsequent compensation lower for those CEOs who fail to obtain a positive market reaction after the implementation of attention attracting mechanisms (i.e. announcements of stock splits, voluntary earnings forecasts and/or press releases).

3. Data and Variables

We combine data from several different sources. First, Execucomp provides information on CEO pay contracts, which are central to the study. The period to be analyzed covers 1992-2011. We filter executive data using the flag CEO which indicates that the person served as an executive for all or most of the fiscal year. The final number of CEOs is 6,779 serving for 3,332 firms. Total firm-year panel adds up to 33,599 observations. Second, Compustat provides market and accounting information on sample companies. The Institutional Brokers' Estimate System (I/B/E/S) database provides information on analyst estimates, while the Center for Research in Security Prices (CRSP) database is the source of information for stock split announcements. Thomson First Call database – Company Issued Guidelines (CIG) – provides information on CEO annual EPS forecasts and finally, Factiva database is the source of information for press releases.

3.1. Dependent Variables

3.1.1. First Proxy of Cheap Talk: Stock Splits

Stock Splits, which is the first proxy for cheap talk, is defined as a dummy variable that takes on the value of one whenever the company announces a stock split in a given fiscal year. There are 2,406 stock split announcements for our sample. A total number of 1,439 firms out of 3,332 announce a stock split at least once throughout the sample period⁴. Out of the splitting firms 58% announce it only once in our 20 year sample period. Annual distribution of stock splits (see Panel A of Figure 1) shows time pattern with most of the splits happening before year 2001 and declining afterwards⁵.

3.1.2. Second Proxy of Cheap Talk: CEO Annual EPS Forecasts

Thomson First Call database - Company Issued Guidelines (CIG) is the source of information to construct the second proxy for managerial cheap talk: *CEO Forecasts*. In particular, the variable used is the number of times manager issues voluntary forecasts in a year that may attract analysts' and investors' attention. Panel B of Figure 1 shows the distribution of EPS forecasts across years. The number of announcing firms as well as the frequency of forecasted earnings has become much more common after 2001. The issuance of a new regulatory rule - Regulation on Fair Disclosure (Reg FD) - by the U.S. Securities and Exchange Commission (SEC) in 2000 partly explains this trend. The regulation forbade companies to selectively disclose information to large investors and analysts. The new rule required the placement of most company announcements to the general public.

In order to provide preliminary evidence on the voluntary nature of the forecasts we notice that 57% (1,913) of the firms in the sample make EPS forecasts at least ones

⁴Out of the 2,406 events we have identified 88 cases that correspond to two splits in the same year by the same firm. For these cases we include only the first split (by calendar date) in our analysis.

⁵ The study of Minnick and Raman (2014) provides a detailed analysis of the reasons behind this decreasing pattern of stock splits which seems to be mainly driven by the reduction in direct household investor equity holdings relative to institutional investor holdings, the increase in household income and the change to decimalization of prices in the main stock exchanges after 2001.

in the sample period (total of 10,422 firm-year announcements). As for the forecasting firms - 52% correspond to firm-years that announce up to 3 EPS forecasts and 14.5% to firm-years with more than five forecasts per annum. On the other hand, 25% of the sample corresponds to firms issuing only one forecast per year. Thus, we can conclude that there is a wide variability in firms' policy concerning EPS forecasts.

3.1.3. *Third Proxy of Cheap Talk: Firm Initiated Press Releases*

Factiva database – a business and information research tool containing numerous sources of news (newspapers, journals, newswires etc.) is the source of information to construct the variable *Press Releases*, our third measure of cheap talk. The research design adopted gears towards collecting all press releases stored on Factiva that have been issued by a firm during a given fiscal period (the main filter for the search is that the firm's name should be mentioned in the headline of the given press release). The annual number of press releases is frequently used in the literature as a proxy for firm media coverage (Bushee and Miller (2012), Bushee, Core, Guay, and Hamm (2010)). The variable accounts for managerial effort to attract attention as all press releases are initiated by firms and directly disclosed to the public without any editorial coverage decisions. This is an important characteristic that warrants that the proxy for cheap talk is a voluntary action. The measure, however, has its limitations, the biggest being its failure to account for the strength of cheap talk i.e. how widely media picks up the information⁶. Besides, the variable does not distinguish good news from bad news and thus limits the understanding of its content.

The result of this screenings allows collecting over 19,965 observations for 2,491 firms for the 2000-2011 period. Mean (median) press releases for the whole sample is 42 (25) press releases per firm per year. Panel A of Figure 1 provides

⁶We have also constructed an alternative media coverage variable that picks up the efforts of media in covering news about firms. In particular, we gathered all the articles that had been published in the media via all sources available at Factiva with a firm name mentioned in the headline or the main paragraph of the article. The results from using this proxy are not radically different from the ones reported in the paper.

information on the distribution of average annual press releases across years. The variable shows large dispersion with maximum number of media coverage being 4,033 articles for one company in one year. In order to control for outliers, we winsorize press releases at 1% from above, however, the results do not change qualitatively if the raw variable is used.

[Insert Figure 1 about Here]

3.1.4. *Analyst Following*

The variable *Analyst Following* captures the reaction of analysts to voluntary CEO announcements. This variable is extracted from I/B/E/S database and measures the cumulative number of EPS forecasts issued by analysts for a given firm in a given fiscal year. In addition, variables *Analysts Ups* and *Analysts Downs* measure the cumulative number of estimates for a given firm that have been lowered or increased by analysts throughout the given fiscal year. Around 30% of the firms in our sample have no EPS forecasts issued by the analysts and the average (median) firm with analyst following has a total of 80 (51) EPS forecasts per year. Figure 2 shows annual distribution of analyst following for the sample period.

[Insert Figure 2 about Here]

3.1.5. *CEO Specific Variables*

CEO turnover measures CEO replacements in the current fiscal year. Given the difficulty in distinguishing between voluntary and forced removals, we adjust this variable to account for potential firings. We keep the replacements that include the CEOs whose firms experienced a drop in stock returns from previous year and the value falls below sample median. There are 1,512 CEO replacements in the sample for below-median performing firms. Figure 3 presents annual distribution of CEO turnover in the sample.

[Insert Figure 3 about Here]

CEO Total Compensation stands for inflation adjusted total CEO compensation (in 1992 dollars). This variable includes fixed salary, bonus, non-equity incentive compensation, stock and option grants, deferred and other compensation. Total compensation and its components are retrieved from the Execucomp database. Figure 3 shows the evolution of average total CEO compensation over the years. On average it has been increasing steadily up until 2001 and decreased somewhat since then. We winsorize total compensation at 1% from above, however the results do not change qualitatively when the raw variable is used.

3.2. Explanatory Variables

The main sources of explanatory variables are Compustat and CRSP databases. The choice of the variables is mainly inspired by the existing empirical literature on stock splits, CEO compensation and turnover, as well as theoretical papers on information disclosure. See the detailed definition of these variables in the Appendix.

CEO Variable Compensation is defined as the ratio of variable compensation to the total compensation in executives' remuneration packages. The variable part of the total remuneration is the result of adding up the most recently granted bonuses, options and stocks in a given fiscal year. The most recent grants of stocks and options provide the longest term pay-for-performance incentives for the CEOs. Other alternative measures of variable compensation like the mix of previously granted exercisable and non-exercisable options and vested and unvested stocks provide similar results.

Figure 4 depicts CEOs' variable compensation and its composition over the sample period. Variable compensation shows a stable increase until 2005 and drops since then. The share of bonuses in total CEO compensation decreased substantially over these 20 years, whereas the share of stocks granted to CEOs increased from 5% in 1992 to 30% in 2011. The average share of options in CEOs' compensation packages did not change dramatically over the period, though certain cyclicity is noticeable

given that there is an increase in this ratio at the beginning of the period and then a decrease from 2003 onwards.

[Insert Figure 4 about Here]

The measure of firm's performance relies on stock returns, which are obtained from CRSP annual files and are calculated as the percent change in stock prices at the end of each fiscal year. We use several modifications of stock returns as controls from Kaplan and Minton's (2012) model. In particular: (i) *Relative Stock Returns* are industry adjusted stock returns (the difference between firm returns and median two digit industry returns) and measure relative firm performance with respect to its industry, (ii) *Relative Industry Returns* are market adjusted industry returns (the difference between median two digit industry returns and S&P 500 index) measure relative industry performance with respect to the market index and (iii) *Market Returns* are the returns on S&P 500 index standing as the proxy of overall market returns. We also introduce *ROA growth* as a control for the change in firm's return-on-assets (ROA) from one period to the next as a measure of profitability.

Leverage – calculated as total debt divided by equity - is often used as one of the explanatory firm specific variables while studying CEO remuneration contracts and turnover (Brick, Palmon, and Wald (2006), Coates and Kraakman (2006), Garvey and Milbourn (2006), Kaplan and Minton (2012)).

Market to Book ratio is computed as market value of equity divided by the book value of equity. This variable is a measure of firm overvaluation which is also very commonly used in the information disclosure literature (Lakonishok, Shleifer, and Vishny (1994), Ikenberry, Rankine, and Stice (1996), Bhattacharya and Dittmar (2008)).

Total Assets (in logs) is used as a proxy for firms' size (Lakonishok and Lev (1987), Coates and Kraakman (2006)).

In addition to the mentioned controls we rely on Lakonishok and Lev's (1987) approach when studying the possible determinants of stock splits. In particular, there is a control for the growth in earnings (*EPS Growth*) and dividends (*Dividend Growth*) as findings show that splitting firms enjoy favorable earnings performance prior to splits.

Table 1 shows detailed summary statistics of all variables at their raw values. For further analyses we winsorize leverage and market-to-book ratios at 1% from above, besides, negative values of leverage and market-to-book ratios are dropped from the sample (total of 945 observations). Total assets is winsorized at 1% from above. Stock returns, ROA, growth in earnings and dividends are winsorized at 1% from above and below.

[Insert Table 1 about Here]

Table 2 reports comparative statistics of two groups of firms depending on their use of cheap talk measures in a given year. The relevant variables are filtered according to the method described above. Companies announcing stock splits, making voluntary earnings forecasts and issuing a substantial number of press releases are classified as firms trying to attract attention (cheap-talking firms). The tests of mean differences for the relevant variables show significant differences. In particular, cheap talking firms tend to be: (i) better performing with higher market values, (ii) have more analysts following with upgrading estimates and (iii) pay their CEOs more generous compensation.

[Insert Table 2 about Here]

4. Research Design and Results

4.1. CEO Remuneration and Cheap Talk

The first hypothesis states that the CEOs whose remuneration packages have a higher variable component are more likely to attract attention through cheap talk (stock splits, EPS forecast announcements and press releases).

In order to test this hypothesis we estimate the following specification:

$$\left\{ \begin{array}{l} \textit{Stock Splits} \\ \textit{CEO EPS forecasts} \\ \textit{Press Releases} \end{array} \right\}_{it} = \alpha + \beta_1 \textit{Variable_Comp}_{i,t-1} + \beta_j X_{i,t-1} + \mu_i + \vartheta_{i,t} \quad (1)$$

The left hand side of equation (1) considers the different proxies of cheap talk (stock splits, frequency of CEO annual EPS forecasts and press releases). We use linear probability model to estimate the probability of stock splits and OLS model to estimate CEO EPS forecasts and press releases conditional on control variables. X_s - the vector of explanatory variables - includes the main independent variable - CEO variable compensation - and other control variables discussed previously. All the regressions include firm fixed effects ⁷ - μ_i - to account for firm-specific time-invariant characteristics that are unobservable but can be controlled for. All the explanatory variables are lagged one period and are considered as predetermined, implying that the type and characteristics of a firm today affects its future decisions regarding cheap talk.

CEO compensation is likely to be endogenous in explaining cheap talk in the specification (1). Variable compensation can be correlated to the potential omitted variables related to company valuation that may also have an impact on CEO's incentive to engage in cheap talk (spurious correlation). To account for this shortcoming we instrument CEO variable compensation by the policy change that was passed by the US SEC in June/December 2005 (FASB Statement No. 123 R). The change affected the accounting rule of expensing awarded options to employees. Remarkably, options are generally awarded at the exercise price prevailing in the market on the day of the awards, making their grant date intrinsic value equal to zero with no relevant expense recognition. Hence, before the new rule at-the-money stock options could have been expensed based on their intrinsic value with zero compensation expense. After the passing of the rule, companies were mandated to start using fair value based valuation

⁷We recognize that cross-sectional study of the hypotheses could also be of interest in order to see the between-firm variation. We repeat the analyses using OLS estimation method without firm fixed effects and the results do not change qualitatively from the presented ones except that some of the coefficients are more significant.

for expensing employee stock option awards. The new accounting rule was targeted at better understanding of companies' economic transactions for the users of financial statements.

On the one hand, this change was arguably unconnected to the implementation of cheap talk strategies (thus it satisfies the overidentification restriction condition of a good instrument). On the other hand, academic research shows that this change in the accounting rule has affected CEO compensation in several ways. Brown and Lee (2007) find that the change in option accounting led to an overall reduction of executive variable compensation (thus satisfying the underidentification restriction condition of a good instrument). Balsam, Reitenga, and Yin (2008) and Choudhary, Rajgopal, and Venkatachalam (2009) document that several public companies accelerated the vesting of employee options in expectation of the change in the accounting rule in order to avoid expense recognition of their unvested options in the future financial statements. We observe the reduction of variable compensation in our sample from 63% of total compensation in 2005 to only 48% in 2006.

The policy change dummy *FASB-123R* (equal to 1 for years 2006-2011 and 0 otherwise) is taken as an exogenous instrument given that it satisfies the two conditions (underidentification and overidentification restriction) of a good instrument. Table 3 shows the results of the estimation of specification (1) using this instrument in a two-stage least squares (2SLS) approach that involves the first-stage estimation to predict CEO variable compensation.

[Insert Table 3 about Here]

The first stage regressions show that F statistics are high and significant at all conventional levels suggesting the validity of the instrument; they also show that the relation between the policy change regarding options accounting and CEO variable compensation is negative, as expected, and highly significant. The results of the second stage suggest a causal positive impact of CEO variable compensation on cheap talk for

all the proxies used (stock splits, EPS forecasts and press releases)⁸. In particular, we find that 1% increase in the proportion of variable part in CEOs' remuneration is correlated with (i) 7.3% increase in the probability of announcing stock splits; (ii) 3.26 more annual CEO earnings forecasts and (iii) around 17 more annual press releases.

4.2. Cheap Talk and Analyst Following

Hypothesis 2 tests whether there is a middle stage connecting cheap talk to changes in market prices. In particular, the question is whether the transfer of soft information to the market is channeled through specialists like financial analysts.

In order to check whether the proposed intermediate chain of action works in practice, we test whether cheap talk measures attract analysts' attention by estimating the following model:

$$\left\{ \begin{array}{l} \mathit{Analysts_Following}_{i,t} \\ \mathit{Analysts_Up}_{i,t} \\ \mathit{Analysts_Down}_{i,t} \end{array} \right\} = \alpha_0 + \beta_1 \mathit{Cheap_talk}_{i,t} + \beta_j X_{i,t-1} + \mu_i + \vartheta_{i,t} \quad (2)$$

Where, *Analyst Following* stands for the cumulative number of EPS estimates issued by analysts for a specific firm in a given fiscal year. *Analyst Ups* and *Analyst Downs* measure the cumulative number of EPS estimates that have been upgraded and downgraded by the analysts in a given year, respectively. *Cheap_talk* is the means of attracting attention (i.e. stock split announcements, number of EPS forecasts and press releases). X_i represents the vector of other explanatory variables also used earlier in the study. μ_i stands for firm fixed effects - firm-specific time-invariant characteristics.

Endogeneity issues can appear in explaining analysts following since changes in firms' characteristics that induce CEOs to use cheap talk to try attract attention could also attract analysts' attention on their own (omitted variables problem). Thus, there is need to identify exogenous shocks affecting the measures of cheap talk and not those of analyst following in order to satisfy the overidentification restriction condition of a good

⁸The re-estimation of the regressions only with option grants, as the policy was aimed specifically at option awards, provides similar results to the presented ones. Also, the estimation without instrumenting variable compensation provides results consistent with the ones shown in Table 3.

instrument and capture causal relationship. One potential candidate for instrumenting one of the measures of cheap talk - stock splits - is the so-called decimalization.

In April 2001 the Securities and Exchange Commission mandated all US stock markets to switch to the decimal system; so that stock prices began to be quoted in decimals instead of fractions practiced previously. Interestingly, Kadapakkam, Krishnamurthy, and Tse (2005) prove that the reduction in bid-ask spreads following decimalization weakened brokers' incentives to promote stocks to small investors. Minnick and Raman (2014) show that, in turn, this reduced the attractiveness of stock splits as means to broaden the firm's shareholder base by attracting small investors and led to a significant reduction in the number of stock splits after decimalization. Therefore, decimalization is a type of exogenous shock that negatively affects stock splits (thus satisfying the underidentification restriction condition) but arguably has no direct effect on analyst following (to satisfy the overidentification restriction condition), which are the two conditions of a good instrument for stock splits. In fact, in our sample the percentage of firm announcing stock split decreased from 11% of the sample in 2000 to 6% in 2001 and continued to decline thereafter.

Table 4 presents the output of the regressions including the results of 2SLS estimation for stock splits instrumented by the *Decimalization* dummy with the value of 1 for years 2001-2011 and 0 otherwise. The results indicate that all the proxies of cheap talk: stock splits, EPS forecasts and firm press releases serve to attract analysts' attention as measured by the number of EPS forecasts issued. The first stage regression of 2SLS for the stock splits shows that decimalization has an expected negative and significant effect on the incidence of stock splits. The F statistics of the regression is significant with a value of 14.77 implying that the instrument is a valid choice.

The results of the second stage of 2SLS for stock splits and press releases have a positive and significant impact on the number of earnings forecasts issued by analysts which is consistent with Hypothesis 2. In particular, annual cumulative number of EPS

forecasts issued by analysts for a given firm increases by around 131 with one standard deviation increase in the number of stock split announcements (0.26×504), by 1 with one standard deviation increase in the number of CEO EPS forecasts (2×0.509), although insignificantly and by 15 with one standard deviation increase in press releases per year (81×0.189).

[Insert Table 4 about Here]

Besides, all the measures of cheap talk are positively and significantly related to the number of upgrades. In particular, number of EPS upgrades increases by 32 with one standard deviation increase in stock splits (0.26×123), by around 1 with one standard deviation increase in CEO EPS forecasts (2×0.424) and by 5.8 with one standard deviation increase in press releases (81×0.072). In terms of the number of downgrades, the effect is less consistent: insignificant following stock splits, decreasing by around 1 after one standard deviation increase in CEO earnings forecasts and increasing by 4 with one standard deviation increase in the number of press releases. The effects of analysts' upgrades and downgrades should be interpreted with care, however, as they most likely depend on positive and negative news contained in earnings announcements and press releases between which we do not distinguish in this paper.

4.3. CEO Turnover and Compensation Following Cheap Talk

The third hypothesis refers to the costs CEOs will face if they are untruthful when using cheap talk, i.e. when they try to attract attention without ground for undervaluation or better firm perspective. To test Hypothesis 3, we estimate the following regressions:

$$\left\{ \begin{array}{l} \text{CEO_Turnover}_{i,t} \\ \text{Total_Compensation}_{i,t} \end{array} \right\} = \alpha + \beta_1 \text{Cheap_talk}_{i,t-1} + \beta_2 \text{Cheap_talk}_{i,t-1} \times \text{Returns}_{i,t-1} + \sum \beta_j X_{i,t-1} + \mu_i + \vartheta_{i,t} \quad (3)$$

Where, we use linear probability model to estimate the probability of CEO turnover and OLS model to estimate total CEO compensation conditional on control variables.

All regressions include firm fixed effects - μ_i - firm-specific time-invariant characteristics. Hypothesis 3 is tested using the interaction term between the cheap talk measures and subsequent firm performance proxied by stock returns at fiscal year-end. Therefore, we are mainly interested in estimating coefficient β_2 . The set of control variables are taken from the existing empirical literature on CEO replacements following Coates and Kraakman (2006), Jenter and Kanaan (2006) and Kaplan and Minton (2012).

An accurate test of Hypothesis 3 requires the identification of the effect of using cheap talk on CEO turnover contingent on the posterior stock market performance. In the estimations the interaction terms between cheap talk variables and firm returns allows testing the hypothesis which implies that the coefficients of the interaction terms should be (i) negative and significant when examining CEO turnover: low market returns are more likely to be punished with a higher probability of turnover in the following year for those CEOs who engaged more frequently in cheap talk in order to attract market's attention; (ii) positive and significant when examining CEO total compensation: low market returns are more likely to be punished with lower subsequent compensation for those CEOs who engaged more frequently in cheap talk in order to attract market's attention.

We deal with potential endogeneity of CEO turnover and CEO compensation by employing 2SLS regression approach and using instrumental variable analysis for two of our measures of cheap talk – stock splits and CEO EPS forecasts. The instrumental variable we chose for stock splits is decimalization described more thoroughly in the previous chapter. CEO EPS forecasts will be instrumented by a dummy variable indicating policy change on the Regulation of Fair Disclosure passed on October 23, 2000 by the US SEC (*Regulation_FD* equals 1 for years 2001-2011 and 0 otherwise). In particular, the regulation prohibited companies from selective disclosure of non-public information previously available mostly to equity analysts via their personal

interactions with executives. This regulation was aimed at replacing private announcements with public disclosures with arguably positive consequences for firm transparency (underidentification restriction condition). Such normative shock is not expected to be directly correlated to CEO turnover and CEO compensation (overidentification restriction condition). Bailey, Li, Mao, and Zhong (2003) find that corporations increased the quantity of voluntary disclosures available to the public following the regulation. Carnaghan and Jha (2004) document that CEO earnings forecast frequency, specificity and verifiability improved after the passing of the regulation. Heflin, Kross, and Suk (2012) also find that the informativeness of earnings forecasts (in terms of less bias and accuracy) improved after Regulation FD. Our sample shows a significant increase in the frequency of CEO earnings forecasts from an average of 0.54 in 2000 to 1.17 in 2001 (and onwards).

Table 5 shows the results of the estimation of the probability of CEO turnover and changes in total CEO compensation. The outcomes are in accordance with Hypothesis 3 almost for all specifications and measures of cheap talk.

The first stage regressions of 2SLS for stock splits and CEO EPS forecasts shows that the instruments have expected and significant effect on the incidence of the respective cheap talk measures. In particular, decimalization has a negative impact on the incidence of stock splits and Regulation Fair Disclosure is positively associated with the issuance of CEO earnings forecasts. The F statistics of the regressions are also significant.

The final regressions show that the lower the stock returns following cheap talk announcements in a given year, the higher the probability of CEO turnover and lower the total executive compensation in the subsequent years and vice versa. These results are also economically significant given that (i) for the sample mean value of stock splits (0.07) 1% decrease in returns following stock splits is associated with 2.6% higher probability of CEO turnover and \$1.08 million decrease in CEO total compensation; (ii)

for the sample mean value of CEO EPS forecasts (1.07), 1% decrease in the fiscal year-end firm returns results in a 0.54% increased probability of CEO turnover and a \$0.22 million decrease in the subsequent CEO compensation; (iii) for the sample mean value of press releases (42) 1% decrease in the fiscal year-end firm returns results in approximately \$0.38 million decrease in the subsequent CEO compensation.

[Insert Table 5 about Here]

The results indicate that using cheap talk makes CEOs' jobs more vulnerable and their total compensation more sensitive to stock market performance. Remarkably, independently of the final performance, the direct effect of cheap talk on CEO turnover (CEO compensation) is positive (negative). The attraction of attention generates expectations that *ceteris paribus* of what the final outcome will be, they put pressure on CEOs, which in the end, may affect their careers. Thus, cheap talk is not cheap for managers as it may lead to undesirable outcomes when not followed by favorable stock market performance. In equilibrium, managers may decide to define cheap talk tactics of attracting attention because they have full confidence (or directly over-confidence) of the capacity of their managed firms to generate enough value, which will reinforce their position in their firm. Besides, the cost of not generating enough value and their penalty associated in terms of increases in CEOs turnover generates the correct *ex-ante* incentives for CEOs in order to generate enough value.⁹

5. Robustness Checks

5.1. Contingency: The impact of corporate governance

Although not directly related to the theoretical predictions in Almazan, Banerji and Motta (2008) it is interesting to investigate the impact of corporate

⁹ There is also a second possibility: Analysts have a verification bias and interpret cheap talk and upward analysts' reaction as a signal of firm overvaluation and, accordingly, they penalize the CEOs. We have analyzed this issue and we did not find significant difference in the impact of cheap talk on CEO turnover and CEO compensation once we compare firms whose analysts' recommendations have been revised upwards with their counterparts with downward revisions.

governance on our results. According to the theoretical model any impact of corporate governance would be indirect, coming only through the effect that corporate governance is supposed to have on managerial compensation and the probability of CEO replacement after bad performance. Nevertheless, one could argue that as boards of directors have become more independent and powerful vis a vis managers, they could be affecting firms' disclosure policies (Elshandidy and Neri, 2014) and performance as well as the structure of compensation and the probability of CEO turnover (Conyon and He, 2012). Past research has argued that independent boards are advantageous in exercising better control and monitoring of managers (Hermalin and Weisbach (2001), Van den Berghe and Levrau (2004)). Empirical evidence also shows a positive relationship between board independence and firm performance (Coles, Daniel, and Naveen (2008)), negative relationship between board independence and earnings management (Farrell, Yu, and Zhang (2013)). If this is the case a possible endogeneity (spurious correlation) problem between CEO compensation and firms' corporate governance may exist in the estimation of equation (1). It may be that CEO compensation, as the determinant of firms' disclosure policies, is acting as a proxy of corporate governance.

It is important to notice that firms' quality of corporate governance is relatively sticky over time. Therefore the fixed-effects estimations used in all previous specifications would already be tackling these potential endogeneity issues to the extent that it eliminates the time-invariant components of the error term. Moreover, we have instrumented compensation using our dummy *FASB-123R* (equal to 1 for years 2006-2011 and 0 otherwise), which should already eliminate any spurious correlation coming from firm characteristics simultaneously related to corporate governance and compensation. Nevertheless, in order to further investigate whether there is any direct effect of corporate governance we use the IRRC Board of Directors database to construct the variable *Independent Board* (computed as the percentage of independent

directors on the board) as a proxy for the quality of corporate governance. Unfortunately, not all firms report their board composition and introducing this variable in our regressions reduces significantly the number of observations (see Table 3 and Panel A of Table 6). This increases standard errors; it also generates a sample size bias. In particular, there are significant differences in the size of the firms that do report information on corporate governance relative to the ones that do not report it. More specifically, the mean total asset of the reporting firms is 38% significantly larger than the mean of non-reporting ones, so the remaining sample is leaned towards larger firms. These problems can explain the weaker results found in Table 6 as it will be confirmed in the next sub-section (5.2) on the analysis of size effects.

Remarkably, as can be seen in Panel A of Table 6, board composition is not significant in any specification of Hypothesis 1, while there is still a positive and significant direct impact of variable compensation (instrumented by the dummy FASB-123R) on the probability that the firm engages in cheap talk. This seems to indicate that if independent directors play a role in the implementation of cheap talk policies, it is via the determination of compensation policies.

[Insert Table 6 about Here]

We also introduce board composition in our estimation of Hypothesis 3. Here board independence, apart from its eventual connection to cheap talk, could be expected to have a direct and positive impact on the probability of CEO turnover and a negative impact on the change in total compensation. Like in previous test, Panel B of Table 6 shows no significant effect of independent board on either the probability of CEO turnover or subsequent total compensation. Hence, the initial results cannot be explained away by spurious correlation between corporate governance, compensation, cheap talk and firm performance. The loss of significance in our main results is due to the sample selection bias which results from the inclusion of board composition in the regressions. This issue will be analyzed in the next section.

5.2. Contingency: Size effects

When we test Hypothesis 1 we notice that the impact of size on the use of our proxies for cheap talk is inconclusive. One explanation may be that smaller firms are in more need of attracting attention; however, larger firms face more pressure from the market to deliver more information. Interestingly, Bhattacharya and Dittmar (2008) prove that only the more undervalued and more ignored firms will use costless signals as an information transmission mechanism because only high potential gains will compensate analysts and investors for the costs of discovering new information. Thus it should be the smaller firms that make more use of cheap talk mechanisms, while larger firms would benefit less from cheap talk and would be expected to use more traditional signaling mechanisms (leverage, dividends, etc.).

In order to further investigate this issue, Table 7 presents the results of Hypotheses 1 and 3 separately for firms with different sizes – the ones with total assets higher than the mean value (large firms) and the ones with total assets lower than the mean value (small firms). As expected, the results are much more significant for smaller firms compared to large ones in most of the specifications in Table 7. Hence, small firms are the drivers of the effects found, which is not surprising given that smaller firms are less followed by both analysts and investors making them more likely to be ignored. Smaller firms have both higher need for attracting attention and higher chances of offering better payoff to analysts and investors when they engage in the process of costly discovery of new information about the firms which had addressed cheap talk policies.

[Insert Table 7 about Here]

5.3. Contingency: Demand for attention

As a further robustness of the results found, we rely on Almazan et al. (2008) model to test whether the most undervalued and more ignored firms are more likely to incentivize their CEOs to attract markets' attention to correct market price. To examine empirically these contentions we divide sample firms into undervalued and/or less

visible and expect to discover stronger results for hypothesis 1 in the subsample of firms that have more demand for attention (*i.e.* firms more undervalued and less visible). We use one-period lagged price to earnings ratio (PER) as the measure of undervaluation and the lagged number of analysts following the firm as the proxy for firms' visibility. Firms that have the values lower than the median of our proxies for the sample are compared to the firms with higher than the sample median values.

Table 8 shows the results of the regressions to test specification (1) using a 2SLS approach and as an instrument dummy FASB-123R, which was mentioned in [Section 4.1](#). Results found indicate that in six out of the nine models estimated, the results are stronger for more undervalued and/or less visible firms, which are natural candidates to demand more investors' attention, than their counterparts. In particular, results from Panel A regressions are, in general, more significant than results from Panel B except for some specifications of Press Releases. Hence, CEOs of more undervalued firms and/or firms with lower visibility are particularly sensitive to embark in cheap talking strategies when their salaries scheme rely more on variable compensation.¹⁰

5.4. Further endogeneity issues:

5.4.1/ Accounting Impact and Instrument Validity (Heterogeneous Effect of Instrumental Variables)

We acknowledge that our instrumental variables are time dependent and other market related events might have taken place following the respective policy changes throughout our sample period. Such possibility could have an effect on the variables from both sides of the regressions and may generate a problem of spurious correlation.

¹⁰ We have also analyzed the consequences in terms of CEO turnover and CEO compensation contingent on firm's returns once we compare ex-ante undervalued firms with their overvalued counterparts that, both, have implemented cheap talk strategies. The results are not significantly different in both scenarios, which suggest that investors only take into consideration the value generated in their decision to replace a CEO and ignore the initial situation of the firm. Then, consistently, CEOs of undervalued firms expect ex-ante that it is easier to generate value after attracting attention and they will have more incentives to implement cheap talk strategies.

In order to partly alleviate this flaw and disentangle the effects of the respective policy changes, we are going to study different subsamples that have been either affected asymmetrically by our instrumental variables or have experienced other radical structural changes in the years following the policy change.

In particular, we first examine the heterogeneous effect of FASB-123R on CEO equity-based compensation. We follow Hayes et al. (2012) and identify the firms for which the intensity of accounting costs due to the policy change were potentially more significant. We calculate the variable - Accounting Impact - that measures the amount by which firms' earnings would have been reduced in 2005 if they had to recognize option expense based on the fair value as required by FASB-123R following 2006. We divide the sample into two groups – the most exposed to the accounting treatment (with Accounting Impact above its sample median value in 2005) and the least exposed (Accounting Impact less than the sample median). Unfortunately, there is a significant reduction in the number of observations due to many missing values from IBES database. Estimation of specification (1) shows stronger association between CEO variable compensation and subsequent cheap talk in the sample of more severely impacted firms in two (stock splits and press releases) out of the three cases (see Table 9). For CEOs forecasts, the results are not conclusive. Such set of results provide further evidence that the findings supporting Hypothesis 1 are not the result of spurious correlations (i.e. exogenous variations in CEO incentives instead of other contemporaneous events connected to these variations, are the drivers of cheap talk practices).

5.4.2/ Spurious correlation (CEO fixed effects)¹¹

Following Bhattacharya and Dittmar (2008), over-confident CEOs tend to consider firms undervalued and they engage in cheap talk. Also, over-confident CEOs are paid with high variable (equity-based) compensation (Gervais et al., 2011). Hence,

¹¹ We would like to thank an anonymous reviewer for this suggestion.

it may perfectly be the case that the connection between variable compensation and cheap talk to be spurious and connected to CEO characteristics. In order to eliminate such possibility we have conducted a CEO-fixed effects estimation of specification (1) and the results are qualitatively similar to those shown in the paper.

6. Summary and Conclusions

The existence of asymmetric information between managers and shareholders reduces growth opportunities and firm value. Nevertheless, managers can affect the information environment of their companies by attracting the attention of capital markets and guiding the players through the performance of the firms. This paper relies on the theoretical work of Almazan, Banerji, and Motta (2008) studying whether the design of CEO compensation contracts affects the transfer of unverifiable firm-specific voluntary information to the markets by inducing CEOs to use cheap talk to attract the attention of analysts and investors. These analysts/investors, in turn, will monitor the firm and produce new information on firm value. In order to trigger this process managers have to receive appropriate incentives. In particular, they will only have incentive to use cheap talk strategies (i.e. stock splits, EPS forecasts or press releases) when there is good information to convey to financial markets. Otherwise, being more closely monitored by financial analysts after attracting their attention, managers who try to play the market run the risk of reducing their compensation or even losing their jobs when their cheap talk strategies fail to be followed by improved performance.

The empirical results we find, using an instrumental variable approach, are consistent with these conjectures. In particular, the results show that an increase in CEO variable compensation is correlated with an increase in the probability of stock split announcements, the frequency of voluntary earnings forecasts and firm initiated press releases, which are the proxies used for cheap talk. Remarkably, these actions are proved

to be very effective in attracting attention, causing an increase in the number of EPS forecasts issued by financial analysts for the firms that have engaged in cheap talk.

However, as mentioned before, for these actions to be credible and effective in attracting attention, they must have some cost for managers. That is, the CEO who is attracting markets' attention is expected to be penalized for an untruthful use of cheap talk when the firm underperforms. Using CEO turnover as a proxy for managerial punishment, worse (better) stock performance following cheap talk is associated with an increase (decrease) in the probability of CEO turnover. In addition, the managers who engage in unsuccessful (successful) cheap talk that obtains negative (positive) abnormal returns earn lower (higher) total compensation in the following year. Besides, these results are not driven by the differences in firms' corporate governance or other (performance related) omitted variables that can potentially bias the results. Remarkably, the results are particularly significant for smaller firms which have larger need for attention.

Finally, in terms of new avenues for research, it seems worthy of exploring the characteristics of investors towards whom managerial cheap talk is targeted (informed investors versus non-informed ones). In particular, it would be interesting to check if investors take into account the incentives of the announcing managers when they are trading after voluntary announcements.

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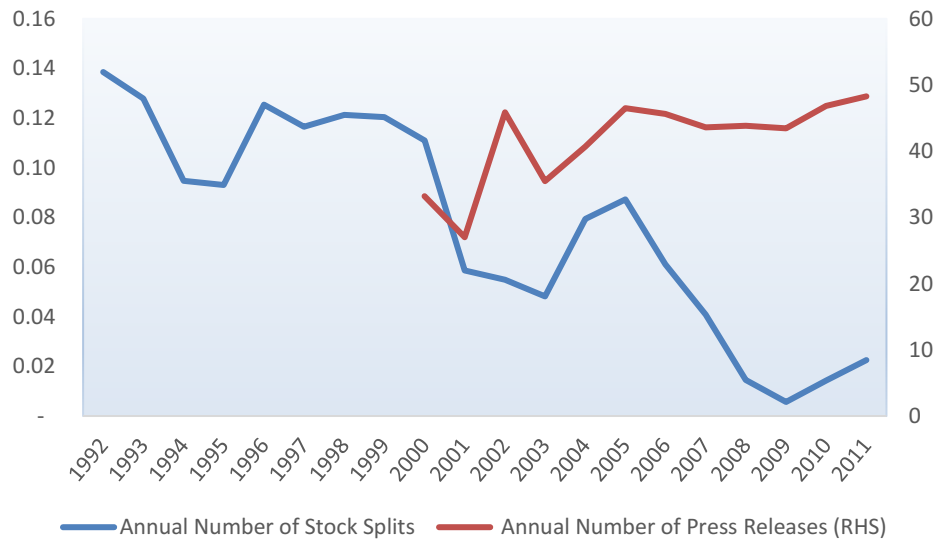
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Figure 1. Three Proxies of CEO Cheap Talk

Panel A of the figure portrays annual number of stock splits scaled by the number of firms. The graph also depicts average annual number of press releases per firm on the right hand side. Panel B shows annual number of firms that have issued earnings forecasts on the right hand side and the average frequency of forecasted earnings per firm per year on the left hand side.

Panel A. Stock Splits and Press Releases



Panel B. CEO EPS Forecasts

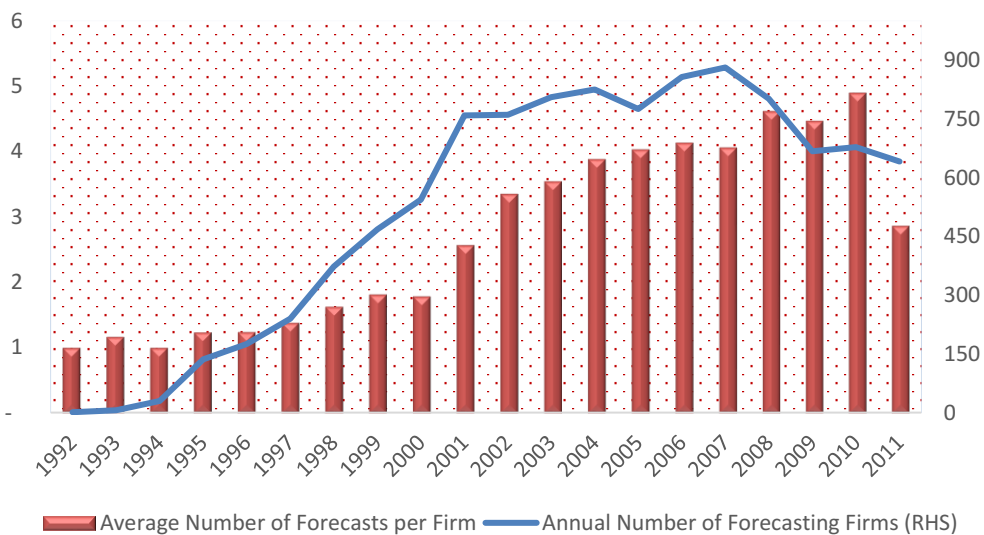


Figure 2. Analyst Following

The left-hand side of the figure shows the mean number of cumulative earnings forecasts issued by analysts for a given firm in a given fiscal year. The right hand-side shows the change in analyst forecasts - number of EPS_Up and EPS_Down - as the means of cumulative annual number of earnings that have been increased or lowered by analysts for a given firm throughout the fiscal year, respectively.

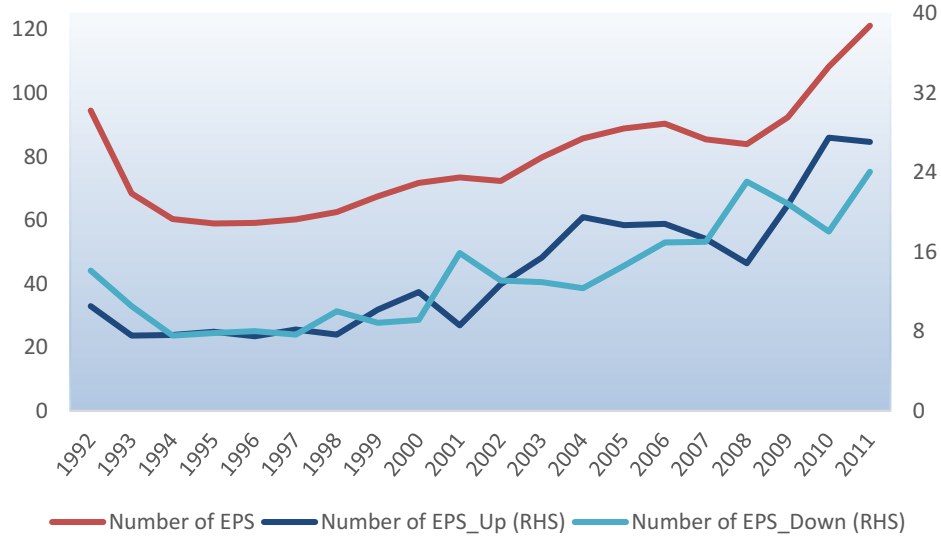


Figure 3. CEO Turnover and Total CEO Compensation

The figure shows annual number of CEO turnover scaled by the number of firms for all and below-median performing firms in respective columns. The right hand side of the figure depicts average total CEO compensation in millions of dollars deflated to 1992 value.

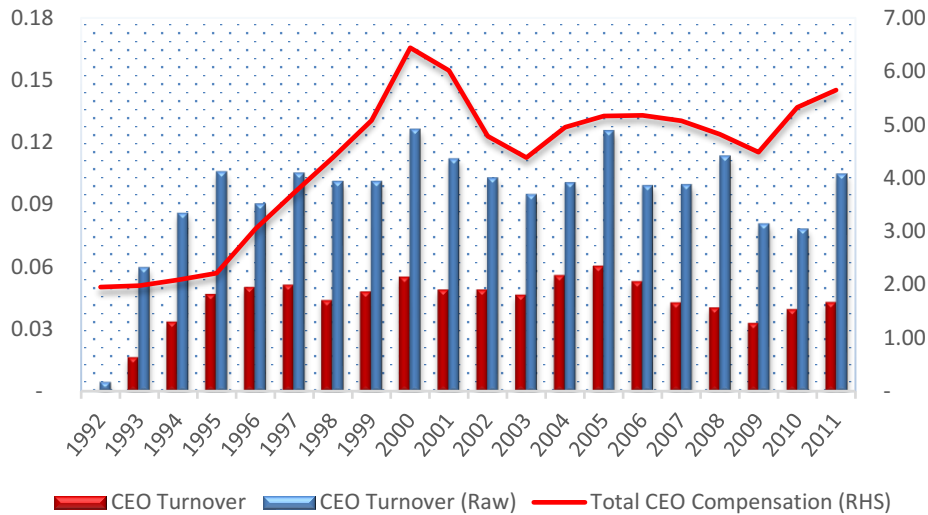


Figure 4. Composition of CEO Variable Compensation

The figure portrays annual CEO variable compensation as well as the fractions of each component of it - bonuses, stocks and options - in total executive compensation.

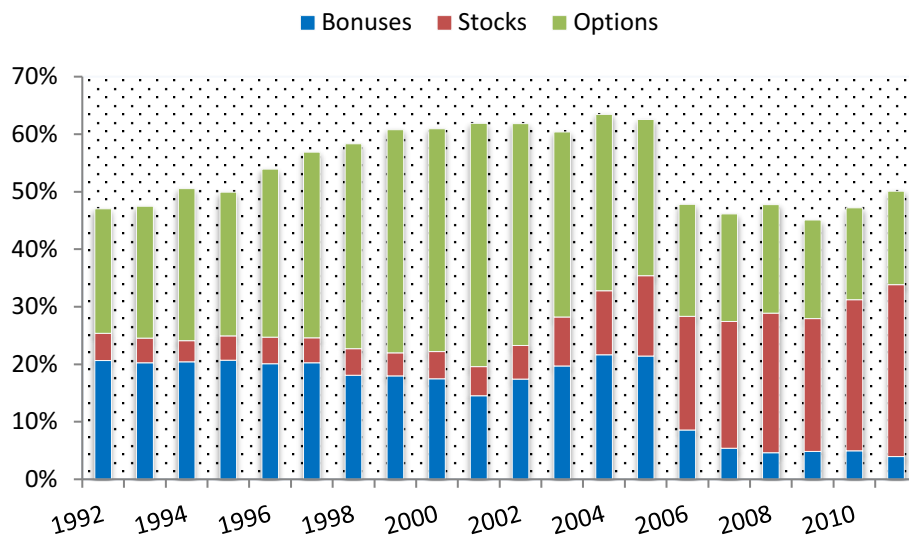


Table 1. Summary Statistics

The table presents descriptive statistics for a sample of 3,332 firms with 33,599 total firm-year panel observations that covers the period 1992-2011. Data relies on different sources. Execucomp provides information on CEO pay contracts. Compustat provides market and accounting information on sample companies. The Institutional Brokers' Estimate System (I/B/E/S) database provides information on analyst estimates, while the Center for Research in Security Prices (CRSP) database is the source of information for stock split announcements. Thomson First Call database - Company Issued Guidelines (CIG) – provides information on CEO annual EPS forecasts and finally, Factiva database is the source of information for press releases. All variables are defined in the Appendix.

Variables	Mean	Median	99% Pct.	1% Pct.	St. Dev.
Leverage	2	1.24	23.34	-8.97	105
Market-to-Book	3.6	2.1	19.9	-5.2	69
Total Assets (\$mln)	13	1.6	194.5	0.04	76.9
Stock Returns	0.15	0.07	2.34	-0.80	0.74
Relative Stock Returns	0.08	0	2.07	-0.80	0.69
Relative industry returns	0.005	0.002	0.67	-0.48	0.21
Market Returns (S&P 500)	0.07	0.09	0.34	-0.38	0.19
ROA growth	0.20	0.01	8.03	-5.04	23.11
EPS growth	0.22	0.08	13	-12.6	22.95
Dividend growth	61	0	2.38	-1	8,664
Analyst Following	80	51	374	0	93
Analyst Ups	14.6	5	108	0	23
Analyst Downs	14	4	104	0	22.5
Total Compensation (\$mln)	4.5	2.3	32.1	0	9.4
Variable Compensation	0.54	0.59	0.98	0	0.28
Bonuses	0.14	0.09	0.72	0	0.17
Stocks	0.12	0	0.79	0	0.20
Stock Options	0.27	0.22	0.94	0	0.28
CEO Age	55.5	55	76	39	7.5
CEO Tenure	7	5	34	0	7.3
CEO Turnover	0.10	0	1	0	0.30
CEO Turnover (return_growth<median)	0.05	0	1	0	0.21
Stock Splits	0.07	0	1	0	0.26
CEO Forecasts	1.07	0	8	0	2.0
Press Releases	42	25	310	0	81

Table 2. Comparative Statistics

The respective columns of the table report one year lagged mean values of variables for firms trying to attract attention through either stock splits, EPS forecast or press releases in a given year, and compares them to the mean values of the rest of the sample. The relevant variables are filtered according to the Section 3.2. All variables are defined in the Appendix. Stars indicate significance of the differences in means at levels 1% (***), 5 % (**) and 10 % (*), respectively.

Control Variables	Stock Splits		EPS Forecasts		Press Releases	
	Yes (Obs=2,406)	No (Obs=31,193)	Yes (Obs=10,422)	No (Obs=23,177)	Top 50 % (Obs=10,105)	Bottom 50 % (Obs=9,860)
Leverage (t-1)	2.3	2.6***	2.3	2.7***	2.7	2.3***
Market-to-Book (t-1)	4.7	3.0***	3.9	3.0***	3.3	2.8***
Total Assets (\$mln) (t-1)	7.7	9.3***	10.0	8.8***	14.9	4.9***
Stock Returns (t-1)	0.54	0.11***	0.16	0.13***	0.14	0.13
Relative Stock Returns (t-1)	0.35	0.04***	0.07	0.05***	0.06	0.07
Relative Industry returns (t-1)	0.05	0.01***	0.03	-0.01***	0.05	0.05
Market Returns (S&P 500) (t-1)	0.14	0.07***	0.05	0.09***	0.03	0.02***
ROA Growth (t-1)	0.23	0.11***	0.12	0.11	0.14	0.10**
EPS Growth (t-1)	0.46	0.10***	0.27	0.04***	0.14	0.10
Dividend Growth (t-1)	0.04	0.01***	0.03	0.00***	0.02	0.01***
Analyst Following	94	79***	106	68***	114	62***
Analyst Following Ups	22	14***	20	12***	24	12***
Analyst Following Downs	9	14***	17	13***	22	11***
Total Compensation (\$mln) (t-1)	4.7	4.2***	5.3	3.6***	6.2	3.4***
Variable Compensation (t-1)	0.63	0.55***	0.60	0.54***	0.61	0.53***
Bonuses (t-1)	0.23	0.15***	0.14	0.16***	0.12	0.14***
Stocks (t-1)	0.07	0.12***	0.14	0.11***	0.17	0.13***
Stock Options (t-1)	0.33	0.28***	0.31	0.28***	0.31	0.26***
CEO Age	55	55.5	55	56**	55	56**
CEO Tenure	8.7	7.0***	6.8	7.3***	6.7	7.2***
CEO Turnover (t+1)	0.045	0.057**	0.054	0.056	0.054	0.050
CEO Turnover (return_growth<median) (t+1)	0.024	0.025	0.026	0.025	0.027	0.022**
Stock Splits	1	0	0.07	0.07	0.05	0.05
CEO EPS Forecasts	0.96	1.07***	3.4	0***	1.9	1.3***
Press Releases	38.5	39	42	38***	66	12***

Table 3. CEO Variable Compensation and Cheap Talk

The table reports estimation results for Hypothesis 1. Dependent variables are the three measures of cheap talk (binary variable representing stock splits, the frequency of CEO EPS forecasts and the amount of press releases) in respective columns. The main independent variable of interest is CEO variable compensation consisting of bonuses, stocks and options as the share of total current CEO compensation. The method of estimation is a linear probability model for stock splits and OLS for CEO forecasts and press releases, with firm fixed effects. We apply 2SLS approach, where in the first stage of the estimation an exogenous dummy variable FASB-123R, with value of 1 in years 2006-2011 and 0 otherwise, instruments CEO variable compensation. This instrumental variable stands for the policy change enacted by SEC in 2005 that affected the accounting rule of stock options granted to employees of public companies. All independent variables with sign (t-1) represent one year lagged values. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***), 5 % (**) and 10 % (*), respectively.

Dependent Variable: Cheap Talk	First Stage Regression (Variable Compensation)	Splits Second Stage	Forecasts Second Stage	Press Releases Second Stage
Variable Compensation (t-1)	-	0.073** (2.35)	3.259*** (10.46)	17.096*** (3.74)
Age (t-1)	-0.003*** (-4.73)	-0.001*** (-2.60)	0.002 (0.24)	-0.019 (-0.19)
Tenure (t-1)	-0.002*** (-3.13)	0.002*** (3.97)	-0.001 (-0.16)	0.085 (0.94)
Returns (t-1)	-0.005 (-1.19)	0.072*** (15.24)	0.034 (1.20)	-0.080 (-0.18)
Leverage (t-1)	0.009*** (7.95)	-0.004*** (-3.69)	-0.017 (-1.44)	-0.450** (-2.07)
Market-To-Book (t-1)	0.012*** (10.76)	0.007*** (5.05)	0.014 (1.20)	0.015 (0.06)
Log Assets (t-1)	0.049*** (8.42)	-0.038*** (-6.95)	0.226*** (3.55)	5.585*** (4.65)
EPS Growth (t-1)	0.000 (0.58)	0.000 (-0.65)	0.004 (0.96)	-0.133* (-1.70)
Dividend Growth (t-1)	0.005 (1.04)	0.025*** (5.15)	0.049 (1.45)	0.463 (0.80)
Time Trend	0.009*** (9.87)	-0.004*** (-6.46)	0.122*** (14.70)	1.858*** (11.92)
FASB-123R	-0.199*** (-28.99)	-	-	-
Firm Fixed Effects	YES	YES	YES	YES
F-Statistics	840	-	-	-
Endogeneity test - p-value	-	0.25	0.00	0.00
No. Obs.	21,035	21,035	21,035	13,867
R ²	-	0.06	0.00	0.08

Table 4. Cheap Talk and Analyst Following

The table reports estimation results of Hypothesis 2 with total cumulative number of EPS forecasts issued by analysts (All) and the cumulative number of changes (Ups and Downs) in the EPS estimates issued for a given firm in a given year as dependent variables. The main independent variables of interest are the three measures of cheap talk - a binary variable representing stock splits, the frequency of CEO EPS forecasts and the amount of press releases – in respective columns. The method of estimation is OLS with firm and year fixed effects where indicated. We use 2SLS regression with firm fixed effects in case of stock splits, where in the first stage of the estimation the exogenous dummy variable Decimalization, which equals 1 in years 2001-2011 and 0 otherwise, is used as an instrument for stock splits to accounts for the endogeneity of cheap talk. The dummy variable stands for the policy change enacted by the SEC in 2001 that affected the quoting rule of share prices on stock exchanges. All independent variables with sign (t-1) represent one year lagged values. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***), 5 % (**) and 10 % (*), respectively.

Dependent Variable: Analyst Following	Stock Splits			CEO Forecasts			Press Releases			
	First Stage Regression	Analyst # of Estimates			Analyst # of Estimates			Analyst # of Estimates		
		All Second Stage	Ups Second Stage	Downs Second Stage	All	Ups	Downs	All	Ups	Downs
Cheap Talk	-	504*** (3.48)	123*** (3.68)	11 (0.50)	0.509 (1.09)	0.424*** (3.65)	-0.557*** (-5.06)	0.189*** (5.19)	0.072*** (5.53)	0.051*** (5.25)
Returns (t-1)	0.075*** (19.20)	-38.76*** (-3.50)	-5.81** (-2.26)	-5.561*** (-3.43)	-4.324*** (-5.97)	2.64*** (11.17)	-4.70*** (-15.80)	-3.628*** (-4.51)	2.58*** (9.14)	-4.144*** (-12.78)
Leverage (t-1)	-0.005*** (-6.37)	-0.247 (-0.29)	0.371* (1.86)	-0.946*** (-6.42)	-2.947*** (-8.02)	-0.336*** (-4.14)	-1.020*** (-10.10)	-2.397*** (-7.23)	-0.101 (-1.14)	-0.915*** (-7.93)
Market-To-Book (t-1)	0.007*** (7.23)	-1.202 (-1.00)	-0.921*** (-3.29)	0.965*** (5.02)	3.370*** (9.88)	0.272*** (2.99)	1.146*** (11.39)	2.870*** (7.57)	-0.043 (-0.37)	1.164*** (10.08)
Log Assets (t-1)	-0.033*** (-7.54)	45.33*** (8.11)	8.05*** (6.05)	9.650*** (10.64)	30.328*** (14.69)	4.50*** (8.50)	9.74*** (17.87)	26.45*** (11.85)	2.94*** (4.91)	10.39*** (15.72)
Decimalization	-0.025*** (-3.84)	-	-	-	-	-	-	-	-	-
Time Trend	-0.003*** (-4.88)	2.870*** (4.14)	1.521*** (9.46)	0.325*** (2.77)	-	-	-	-	-	-
Constant	-	-	-	-	128.33*** (-8.98)	-25.32*** (-6.64)	-52.82*** (-13.67)	-120.4*** (-7.31)	-10.23*** (-2.25)	-67.76*** (-13.63)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Year Dummies	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
No. Obs.	28,318	28,318	28,318	28,318	28,478	28,478	28,478	17,808	17,808	17,808
F statistics	14.77	-	-	-	-	-	-	-	-	-
Endogeneity test - p-value	-	0.00	0.00	0.44	-	-	-	-	-	-
R ²	0.06	-	-	-	0.15	0.15	0.14	0.17	0.14	0.13

Table 5. The Effect of Cheap Talk on CEO Punishment

The table reports estimation results for Hypothesis 3. Dependent variables represent CEO Turnover and CEO total compensation (TC) deflated to 1992 dollars. Main independent variables of interest are interactions between firm fiscal year-end returns and our three measures of cheap talk – stock split announcements, frequency of CEO EPS forecasts and the amount of press releases. All independent variables with sign (t-1) represent one year lagged values. The method of estimation is linear probability model for CEO Turnover and OLS for TC, with firm and year fixed effects where indicated. In case of stock splits and CEO EPS forecasts the estimations follow 2SLS with firm fixed effects, where in the first stage of the estimation the instrumental variables - Decimalization for stock splits and Regulation FD for CEO forecasts which equals 1 in years 2001-2011 and 0 otherwise – are used as exogenous shocks to account for the respective independent variables' endogeneity. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***), 5 % (**), and 10% (*), respectively.

Dependent Variable: CEO Punishment	Stock Splits		CEO Forecasts		Press Releases					
	Stock Splits	Turnover	Stock Splits	TC	CEO Forecasts	Turnover	TC	Turnover	TC	
	First Stage	Second Stage	First Stage	Second Stage	First Stage	Second Stage	First Stage	Second Stage	First Stage	Second Stage
Cheap Talk (t-1)	-	0.335* (1.86)	-	-13.83** (-2.54)	-	0.013** (2.25)	-	-0.533*** (-3.77)	0.000 (3.08)	-0.004 (-1.33)
Cheap Talk × Returns (t-1)^	-	-0.37* (-1.90)	-	15.44*** (2.69)	-	-0.005** (-2.38)	-	0.205*** (4.08)	0.000 (-0.67)	0.009*** (3.14)
Total Compensation (t-1)	-	-	0.004*** (5.390)	0.254*** (10.54)	-	-	0.021*** (4.86)	0.234*** (11.55)	-	0.125*** (5.55)
Age (t-1)	-0.002*** (-3.55)	0.003*** (5.80)	-0.002*** (-3.49)	-0.019* (-1.65)	-0.010* (-1.89)	0.003*** (5.98)	-0.010* (-1.86)	-0.016* (-1.68)	0.003*** (3.99)	0.005 (0.38)
Tenure (t-1)	0.002*** (4.36)	0.001 (1.21)	0.002*** (4.33)	0.034*** (2.58)	-0.001 (-0.22)	0.001** (2.52)	-0.001 (-0.23)	0.015 (1.53)	0.002*** (2.99)	0.013 (0.95)
ROA growth (t-1)	-0.002* (-1.72)	-0.002 (-1.17)	-0.002* (-1.70)	0.098** (2.53)	0.000 (0.00)	0.000** (0.26)	0.000 (0.03)	0.017 (0.86)	0.001 (0.88)	0.028 (1.20)
S&P 500 Returns (t-1)	-0.040*** (-5.13)	0.035*** (3.19)	-0.036*** (-4.60)	1.198 (0.65)	-0.624*** (-12.50)	0.030*** (4.10)	-0.597*** (-11.95)	0.355* (1.93)	0.052 (0.52)	1.46 (1.08)
Industry Returns (t-1)	-0.005 (-0.58)	0.032* (1.82)	-0.005 (-0.56)	-0.181 (-0.34)	-0.279*** (-5.89)	0.005 (0.90)	-0.277*** (-5.84)	0.937*** (5.27)	0.007 (0.86)	0.791*** (3.31)
Relative Firm Returns (t-1)	0.025*** (5.19)	0.030* (1.87)	0.026*** (5.24)	-0.705 (-1.53)	-0.301*** (-11.53)	0.005 (1.40)	-0.298*** (-11.42)	0.302*** (3.25)	0.004 (0.83)	0.219** (2.05)

Leverage (t-1)	-0.014*** (-13.71)	0.000 (0.25)	-0.013*** (-12.97)	-0.226*** (-6.85)	-0.045*** (-4.02)	0.000 (0.04)	-0.039*** (-3.58)	-0.220*** (-8.56)	0.000 (-0.55)	-0.158*** (-5.00)
Market-To-Book (t-1)	0.023*** (15.64)	0.000 (0.30)	0.021*** (14.56)	0.236*** (6.27)	0.062*** (6.65)	0.000 (-0.59)	0.054*** (5.78)	0.271*** (9.21)	0.001 (0.86)	0.203*** (5.64)
Log Assets (t-1)	0.012** (2.52)	-0.003 (-0.78)	0.005 (0.95)	1.208*** (8.75)	0.365*** (7.08)	-0.004 (-1.06)	0.319*** (6.11)	1.276*** (10.43)	-0.007 (-1.32)	0.958*** (6.24)
Time Trend	-0.004*** (-6.03)	0.002** (2.01)	-0.004*** (-6.47)	0.058* (1.88)	0.062*** (7.59)	-0.001 (-1.41)	0.060*** (7.39)	0.185*** (9.04)	-	-
Instrumental Dummy	-0.059*** (-8.33)	-	-0.059*** (-8.38)	-	0.779*** (14.40)	-	0.778*** (14.39)	-	-	-
Instrumental Dummy× Cheap Talk × Returns (t-1)	0.993*** (19.09)	-	0.989*** (19.10)	-	0.259*** (12.37)	-	0.257*** (12.29)	-	-	-
Constant	-	-	-	-	-	-	-	-	-0.119** (-2.14)	-3.122** (-2.23)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummies	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
F statistics	197.5	-	198.4	-	198.26	-	198	-	-	-
Endogeneity test - p-value	-	0.10	-	0.00	-	0.91	-	0.00	-	-
No. Obs.	22,577	22,577	22,577	22,577	22,577	22,577	22,577	22,577	13,895	13,895
R ²	-	-	-	-	-	-	-	0.14	0.02	0.08

[^]Note. Whenever we use raw Turnover as dependent variable significance is lost in Stock Splits specification.

Table 6. Board Independence

Panel A presents estimation results for Hypothesis 1. Dependent variables are the three measures of cheap talk (binary variable representing stock splits, the frequency of CEO EPS forecasts and the amount of press releases) in respective columns. The main independent variable of interest is CEO variable compensation consisting of bonuses, stocks and options as the share of total current CEO compensation. The estimations follow 2SLS with firm fixed effects approach (the estimation of the probability of stock splits follows a linear probability approach). To account for the endogeneity of compensation, in the first stages of the estimation CEO variable compensation is instrumented by an exogenous dummy variable FASB-123R which equals 1 in years 2006-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2005 that affected the accounting rule of stock options granted to employees of public companies. Independent Board stands for the fraction of total number of directors that are marked as independent in IRRC. Regressions include all the explanatory variables from Table 3, but only the relevant excerpts are provided to save space. Panel B reports estimation results for Hypothesis 3. Dependent variables represent CEO Turnover and CEO total compensation (TC) deflated to 1992 dollars. Main independent variables of interest are interactions between firm fiscal year-end returns and our three measures of cheap talk – stock split announcements, frequency of CEO EPS forecasts and the amount of press releases. All independent variables with sign (t-1) represent one year lagged values. The method of estimation is linear probability model for CEO Turnover and OLS for TC, with firm and year fixed effects where indicated. In case of stock splits and CEO EPS forecasts the estimations follow 2SLS with firm fixed effects, where in the first stage of the estimation the instrumental variables - Decimalization for stock splits and Regulation FD for CEO forecasts which equals 1 in years 2001-2011 and 0 otherwise – are used as exogenous shocks to account for the respective independent variables' endogeneity. Regressions include all the explanatory variables from Table 5 but only the relevant excerpts are provided to save space. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***) , 5 % (**) and 10% (*), respectively.

	Stock Splits	CEO Forecasts	Press Releases			
Panel A: CEO Variable Compensation and Cheap Talk						
Variable Compensation (t-1)	0.043 (0.86)	3.782*** (8.93)	24.92*** (4.55)			
Independent Board (t-1)	0.017 (0.60)	-0.296 (-1.24)	-3.360 (-0.79)			
All other controls from Table 3	YES	YES	YES			
Firm Fixed Effects	YES	YES	YES			
No. Obs.	11,580	11,580	8,441			
Panel B: The Effect of Cheap Talk on CEO Punishment						
	Stock Splits		CEO Forecasts		Press Releases	
	Turnover-IV	TC-IV	Turnover-IV	TC-IV	Turnover	TC
Cheap Talk (t-1)	0.119 (0.77)	-5.741 (-1.32)	0.007 (0.86)	-0.407* (-1.94)	0.000 (3.09)	-0.008* (-1.76)
Cheap Talk ×Returns (t-1)	-0.167 (-0.83)	7.616 (1.41)	-0.001 (-0.26)	0.186*** (2.87)	0.000 (-1.01)	0.008* (1.75)
Independent Board (t-1)	0.010 (0.55)	-0.033 (-0.07)	0.013 (0.73)	-0.213 (-0.43)	0.017 (0.72)	-0.419 (-0.69)
All other controls from Table 5	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES
No. Obs.	12,035	12,035	12,035	12,035	8,300	8,300
R ²	-	-	-	-	0.02	0.06

Table 7. Cheap Talk and Firm Size

The table presents estimation results for small (with total assets lower than the mean value) and large (with total assets higher than the mean value) firms separately, in respective columns. Panel A reports estimation results for Hypothesis 1. Dependent variables are the three measures of cheap talk (a binary variable representing stock splits, the frequency of CEO EPS forecasts and the amount of press releases). The main independent variable of interest is CEO variable compensation consisting of bonuses, stocks and options as the share of total CEO compensation. The estimations follow 2SLS with firm fixed effects approach (the estimation of the probability of stock splits follows a linear probability approach). To account for the endogeneity of CEO compensation, in the first stages CEO variable compensation is instrumented by an exogenous dummy variable FASB-123R which equals 1 in years 2006-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2005 that affected the accounting rule of stock options granted to employees of public companies. Regressions include all the explanatory variables from Table 3 but only the relevant excerpts are provided to save space. Panel B reports estimation results for Hypothesis 3. Dependent variables represent CEO Turnover and CEO total compensation (TC) deflated to 1992 dollars. Main independent variables of interest are interactions between firm fiscal year-end returns and our three measures of cheap talk – stock split announcements, frequency of CEO EPS forecasts and the amount of press releases. All independent variables with sign (t-1) represent one year lagged values. The method of estimation is linear probability model for CEO Turnover and OLS for TC, with firm and year fixed effects where indicated. In case of stock splits and CEO EPS forecasts the estimations follow 2SLS with firm fixed effects, where in the first stage of the estimation the instrumental variables - Decimalization for stock splits and Regulation FD for CEO forecasts which equals 1 in years 2001-2011 and 0 otherwise – are used as exogenous shocks to account for the respective independent variables' endogeneity. Regressions include all the explanatory variables from Table 5 but only the relevant excerpts are provided to save space. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***), 5% (**) and 10% (*), respectively.

Panel A: CEO Variable Compensation and Cheap Talk

	Stock Splits		EPS Forecasts		Press Releases	
	Large	Small	Large	Small	Large	Small
Variable Compensation (t-1)	0.043 (0.64)	0.084** (2.32)	3.927*** (5.10)	2.770*** (8.07)	1.88 (0.11)	22.84*** (5.60)
All other controls from Table 3	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES
No. Obs.	4,128	16,840	4,128	16,840	2,859	10,931

Panel B: The Effect of Cheap Talk on CEO Punishment

	Stock Splits				EPS Forecasts				Press Releases			
	Turnover-IV		TC-IV		Turnover-IV		TC-IV		Turnover		TC	
	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small
Cheap Talk (t-1)	-2.02 (-0.33)	0.256* (1.78)	52.21 (0.37)	-10.82*** (-2.79)	0.011 (0.85)	0.014** (2.10)	-0.452 (-1.18)	-0.564*** (-3.80)	0.000 (2.95)	0.000 (1.82)	-0.004 (-1.11)	-0.001 (-0.40)
Cheap Talk ×Returns (t-1)	3.001 (0.33)	-0.282* (-1.84)	-75.92 (-0.36)	11.67*** (2.96)	-0.002 (-0.33)	-0.006** (-2.38)	0.281** (1.99)	0.189*** (3.74)	0.000 (-0.08)	0.000 (-1.13)	0.007 (1.22)	0.010*** (3.02)
All other controls from Table 5	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
No. Obs.	4,045	18,464	4,045	18,464	4,045	18,464	4,045	18,464	2,752	11,143	2,752	11,143
R ²	-	-	-	-	-	-	-	-	0.04	0.02	0.10	0.08

Table 8. Cheap Talk, Firm Valuation and Analyst Following

Panel A of the table presents re-estimation results of hypothesis 1 for undervalued (with price to earnings ratio lower than the sample median value), ignored (with number of analysts following lower than the sample median value) or both firms. Panel B shows the same analysis for overvalued (with price to earnings ratio higher than the sample median value), frequently followed (with number of analysts following higher than the sample median value) or both firms. Dependent variables are the three measures of cheap talk (a binary variable representing stock splits, the frequency of CEO EPS forecasts and the amount of press releases). The main independent variable of interest is CEO variable compensation consisting of bonuses, stocks and options as the share of total CEO compensation. The estimations follow 2SLS with firm fixed effects approach (the estimation of the probability of stock splits follows a linear probability approach). To account for the endogeneity of CEO compensation, in the first stages CEO variable compensation is instrumented by an exogenous dummy variable FASB-123R which equals 1 in years 2006-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2005 that affected the accounting rule of stock options granted to employees of public companies. Regressions include all the explanatory variables from Table 3 but only the relevant excerpts are provided to save space. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***) , 5 % (**) and 10% (*), respectively.

Dependent Variable: Cheap Talk	Stock Splits			Forecasts			Press Releases		
Panel A. Sample of more undervalued and/or more ignored firms.									
	Underv.	Ignored	Ignored and Underv.	Underv.	Ignored	Ignored and Undervalued	Underv.	Ignored	Ignored and Undervalued
Variable Compensation (t-1)	0.160*** (3.28)	0.026 (0.55)	0.122* (1.78)	3.394*** (7.36)	3.655*** (6.92)	3.015*** (4.26)	1.851 (0.21)	23.68*** (3.09)	26.14 (1.64)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-Statistics	18.52	19.73	7.64	32.43	20.19	9.52	18.28	13.72	5.46
No. Obs.	9,570	9,460	4,664	9,570	9,460	4,664	6,192	5,319	2,562
R ²	0.01	0.04	0.02	-0.04	-0.23	-0.15	0.09	0.01	-0.01
Panel B. Sample of less undervalued and/or more ignored firms.									
	Overval.	Followed	Followed and Overval.	Overval.	Followed	Followed and Overval	Overval.	Followed	Followed and Overval.
Variable Compensation (t-1)	0.024 (0.54)	0.040 (0.91)	-0.035 (-0.57)	3.100*** (7.55)	3.178*** (7.39)	2.953*** (5.39)	22.55*** (3.97)	15.56*** (2.59)	26.44*** (3.65)
Firm Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
F-Statistics	45.30	44.50	32.58	41.30	33.41	22.57	18.28	20.85	14.50
No. Obs.	10,686	11,161	6,062	10,686	11,161	6,062	7,045	8,174	4,359
R ²	0.07	0.07	0.08	0.04	0.02	0.07	0.09	0.08	0.06

Table 9. CEO Variable Compensation and Cheap Talk. Alternative Instruments

The table presents re-estimation results of hypothesis 1 for high accounting impact (with the difference between GAAP and pro-forma earnings higher the median value) and low accounting impact (with the difference between GAAP and pro-forma earnings higher the median value) firms separately, in respective columns. Dependent variables are the three measures of cheap talk (a binary variable representing stock splits, the frequency of CEO EPS forecasts and the amount of press releases). The main independent variable of interest is CEO variable compensation consisting of bonuses, stocks and options as the share of total CEO compensation. The estimations follow 2SLS with firm fixed effects approach (the estimation of the probability of stock splits follows a linear probability approach). To account for the endogeneity of CEO compensation, in the first stages CEO variable compensation is instrumented by an exogenous dummy variable FASB-123R which equals 1 in years 2006-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2005 that affected the accounting rule of stock options granted to employees of public companies. Regressions include all the explanatory variables from Table 3 but only the relevant excerpts are provided to save space. T statistics are provided in parentheses. All variables are defined in the Appendix. Stars indicate significance at levels 1% (***) , 5% (**) and 10% (*), respectively.

Dependent Variable: Cheap Talk	Stock Splits		Forecasts		Press Releases	
	High Accounting Impact	Low Accounting Impact	High Accounting Impact	Low Accounting Impact	High Accounting Impact	Low Accounting Impact
Variable Compensation (t-1)	0.192** (2.45)	-0.073 (-1.49)	4.086*** (6.27)	4.39*** (6.19)	15.038** (2.01)	9.48 (0.71)
All other controls from Table 3	YES	YES	YES	YES	YES	YES
Firm Fixed Effects	YES	YES	YES	YES	YES	YES
F-Statistics	17.43	29.30	14.11	27.46	14.58	8.41
No. Obs.	4,107	4,834	4,107	4,834	2,900	3,100
R ²	0.04	0.09	0.01	0.06	0.10	0.08

Appendix

Table A1. Description of the Variables

Variables	Description
Accounting Impact	The difference between the actual (GAAP complied) earnings reported in Compustat and pro-forma earnings reported in IBES as actual earnings scaled by the value of diluted common shares outstanding: $(EPSFX - F0EPS) / PRCC_F * CSHO$
Analyst Following	Cumulative number of EPS forecasts issued by analysts for a given firm in a given fiscal year from I/B/E/S
Analyst Following Downs	Cumulative number of EPS estimates that have been lowered by analysts throughout the fiscal year from I/B/E/S
Analyst Following Ups	Cumulative number of EPS estimates that have been increased by analysts throughout the fiscal year from I/B/E/S
CEO Age	Chief Executive Officer's age from Execucomp
CEO EPS Forecast Frequency	Computed as the number of times CEO issued annual EPS forecasts in a given fiscal year from Thomson First Call
CEO Tenure	The number of years a person served as a CEO in the given firm calculated as current year minus the year the person became CEO from Execucomp
CEO Turnover	Dummy variable that takes on the value of one whenever the firm replaces its CEO in the given fiscal year from Execucomp
Decimalization	Dummy variable that takes on the value of one in years 2001-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2001 that affected the quoting rule of share prices on stock exchanges; Since the change of the rule stock prices began to be quoted in decimals instead of fractions practiced previously
Dividend Growth	Calculated as a percent change in company's dividends per share (DVT/CSHO from Compustat)
EPS Growth	Calculated as a percent change in company's earnings per share (EPSFX from Compustat)

FASB-123R	Dummy variable that takes on the value of one in years 2006-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2005 that changed the accounting rule of stock options granted to employees of public companies. After the passing of the rule companies were mandated to start using the fair value based measurements for expensing employee stock options. Before the new rule the recognition of stock option grants as expense was not mandatory for the companies
Independent Board	Computed as the number of independent directors (as opposed to insider and linked directors) divided by the total number of board members from IRRC
Industry Returns	Computed as the difference between median two digit industry returns and S&P 500 index returns
Leverage	Calculated as total debt divided by equity (LT/SEQ - from Compustat)
Log Assets	Total assets of the firm in logs (AT - from Compustat)
Market-to-Book	Computed as the market value of equity divided by the book value of equity ((PRCC_F × CSHO) / (BKVLPS × CSHO) - from Compustat)
Press Releases	Computed as the number of press releases stored on Factiva that has been issued about a firm during the given fiscal year. We used the following filters when gathering data from Factiva: the source of the information is Press Release Wires (rst=TPRW), the language of press releases is English (la=en), region covered is USA (re=USA) and the headline of an article has the firm's name mentioned in it (hd=firm_name)
Regulation FD	Dummy variable that takes on the value of one in years 2001-2011 and 0 otherwise and stands for the policy change enacted by the SEC in 2000 that limited selective disclosure of non-public information by the companies
Relative Firm Returns	Computed as the difference between firm returns and median two digit industry returns

ROA Growth	Computed as a percent change in firm's operating income (EBIT) divided by total assets (EBIT/AT) - from Compustat
S&P 500 Returns	Proxy for market returns calculated as the percent change in S&P 500 index
Stock Returns	Calculated as percent change in stock prices at the end of the fiscal year from CRSP
Stock Splits	Dummy variable that takes on the value of one whenever a company announces stock split in a given fiscal year. The variable is retrieved from CRSP database with event distribution code of 5523
Time Trend	Computed as current fiscal year minus 1992
Total CEO Compensation	Dollar value of current year total annual CEO compensation that consists of fixed salary, bonus, non-equity incentive compensation, stock and option grants, deferred and other compensation from Execucomp
Variable CEO Compensation	Computed as the ratio of variable compensation to total CEO compensation. The variable part of the total remuneration is constructed by adding up bonuses, options and stocks. We use $BONUS + OPTION_AWARDS_BLK_VALUE + RSTKGNT$ as variable part of the compensation for 1992-2005 period and $BONUS + OPTION_AWARDS_FV + STOCK_AWARDS_FV$ for the period of 2006-2011 from Execucomp
