GUIDANCE, GUIDANCE AND GUIDANCE
-THE DISCONTINUING AND RESTARTING PHENOMENON
OF QUARTERLY EARNINGS GUIDANCE

by

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ABSTRACT OF THE DISSERTATION

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By Naqiong Tong

Dissertation Director:
Bikki Jaggi

This dissertation proposes and examines three research questions on quarterly earnings guidance on its discontinuity and revival. In particular, it examines the impact of corporate governance on a firm's decision to stop quarterly earnings guidance, the impact of its discontinuity on a firm's investment decisions, and why a firm restarts providing quarterly earnings guidance. Corporate governance is measured by board independence, institutional ownership, types of institutional ownership and CEOs compensation. A firm's long term investments are measured by capital and Research and Development (R & D) expenditure. Theories of firm performance and earnings expectation management are used to explain a firm's decision to restart.

Using an industry-year-quarter matched sample of 1610 firms (the STOPPERS and the MAINTAINERS) from 2001 to 2006, this study finds that a firm is more likely to stop quarterly earnings guidance when its board is more independent, institution ownership is lower, the dedicate institution ownership is higher and the level of cash proportion of CEOs compensation is higher. It also finds a firm is more likely to stop when both past and expected future earnings performances are poorer or more difficult to predict or the management is more optimistic or litigation risk is lower.

Second, this study finds that the STOPPERS have higher levels of capital expenditure and R & D expenditure in the subsequence years following the stop event (one and two years). The change levels of the STOPPERS are higher than that of the MAINTAINERS. It implies that the quarterly earnings guidance has adverse impact on firm's long term investments.

Third, using an industry-year-quarter matched sample of 342 firms (the RESUMERS and the NONRESUMERS) from 2004 to 2008, it finds that a firm is more likely to restart when its earnings and market return improve, or when the prevailing market expectations are higher to beat/meet. In addition, it finds that the R & D expenditure of the RESUMERS are higher than that of the NONRESUMERS in the three years before the restart event, which implies that the RESUMERS increase R & D and capital expenditure after the stoppage, and improve the firm performance.

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CHAPTER 1 INTRODUCTION

I. DEFINITION OF EARNINGS GUIDANCE

Earnings guidance (forecast)[1], also known as "forward-looking statements", refers to the comments management gives about what it expects its company will do in the future. King, et al. [1990] defined management earnings forecasts as voluntary managerial disclosures predicting earnings prior to the expected reporting date. It started in early 1970s when SEC permitted the inclusion of forward looking disclosure in the financial reports and gained its popularity after the passage of the Safe Harbor Act in 1979. In 1996 the Private Securities Litigation Reform Act (PSLRA) extended this act so that firms cannot be easily sued for forecasts that do not materialize. In 2000, Regulation Fair Disclosure prohibited selective disclosures and required firms to disclose information at the same time with an equal access. Afterwards, managerial earnings guidance becomes the only channel that a firm can communicate its expectation of future performance to the

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[1] The term earnings guidance is often used synonymously with earnings forecasts. Alternatively, Miller (2002) argues that earnings guidance represents any manager-provided information that guides outsiders in their assessment of a firm's future earnings, both directly and indirectly. Thus, earnings guidance might include, but need not be limited to, earnings forecasts. For instance, a firm's comments on its prospects in a new product market might be construed as indirect earnings guidance. All references to earnings guidance in this paper refer to earnings forecasts only. Although earnings forecasts are commonly issued well in advance of quarterly and annual earnings releases, they are sometimes provided after the accounting period has ended but before the earnings are announced. These latter forecasts are typically referred to as earnings preannouncements. When management forecasts indicate substantial shortfall from expected earnings, they are commonly termed earnings warnings (Kasznik and Lev [1995]). Even though preannouncements are technically earnings forecasts, most of the literature treats them as early earnings announcements rather than late earnings forecasts. This study separates earnings preannouncements from earnings forecast.

investors in public.[2] Later on, Sarbanes-Oxley Act in 2002 put severe legal consequence on the management for their forecasts, leading to a reverse trend of popularity.

As voluntary managerial disclosures, management earnings forecasts are generally considered by investors as inside information with higher accuracy compared to the forecasts from security analysts or time-series models. Prior literature has well documented many benefits, such as to reduce information asymmetry between the management and the outsiders , thus reduce cost of capital (Botosan [I997] and Healy, Hutton, and Palepu [1998]), to preempt litigation concerns (Skinner [1990], Skinner [1994], Kasznik and Lev[2000]), to establish or alter market earnings expectations (Ajinkya and Gift [I984], King and Pownall, [1990] and Waymire [1995], a term of "expectation management"), or as a contracting tool, to signal the management's abilities to anticipate and cope with uncertainties, or to establish and maintain a reputation for the management for a transparent and accurate reporting behavior. Costs of earnings guidance are also identified in the prior literature, including litigation cost (Skinner [1994, 1997] and Trueman [1997]), proprietary cost (Hayes and Lundholm [1996] and Piotroski [1999a]) and management myopia cost (Bhojraj and Libby [2005] and Cheng, Subramanyam and Zhang [2005]).

Among listed costs of managerial earnings guidance, the management myopia cost is of special importance for quarterly earnings guidance to understand a recent corporate trend as discontinuing quarterly earnings guidance, led by high profile firms such as Coca-cola, McDonalds, AT & T, GE and others. Most corporations stated that

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[2] Internationally, some countries, such as Japan and U.K. require firms to provide quarterly earnings guidance to investors and other interested parties. In other countries, such as France and Canada, earnings guidance is voluntary disclosures, similar to US institutional environment.

"managerial myopia" or "managerial short-termism" is the main concern for them to stop

quarterly earnings guidance. Managerial myopia is defined by Michael Porter as

"sacrificing the long-term development to fulfill the short-term goals." Both the corporate

world and some investors argue that frequent quarterly earnings guidance encourages

investors and analysts to emphasize meeting short-term earnings targets which fosters

myopic managerial behavior that is detrimental to firms' long-term growth and value

creation.[3] The unintended consequence of quarterly earnings guidance as managerial

myopia has been supported by empirical studies such as Bhojraj and Libby [2005] and

Cheng, Subramanyam and Zhang [2005]. In particular, Bhojraj and Libby [2005]

examined the effect of mandatory disclosure frequency on managerial myopia in an

experimental setting and found individual corporate managers did sacrifice the long-term

high earnings projects to fulfill the short-term earnings goals. Furthermore, Cheng et al

study [2005] compared the long-term investment patterns between frequent forecasters

and infrequent forecasters and found that earnings guidance has the adverse impact on

corporations' capital expenditure and R& D expenditure, which in turn, leads to the long

term poorer performance (3 years' ROA growth rate) of frequent-forecast-firms than

occasional guiders. However, a competing view as "performance argument" emerges

against the managerial myopia argument for explaining the discontinuity of quarterly

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[3] The logic of quarterly earnings guidance and managerial myopia is as follows: quarterly earnings guidance leads to a short-term mentality for both companies and investors, thereby shifting the focus from the firm's fundamentals to bottom-line earnings (Prince [2005]). Once expectations are managed through earnings guidance, companies are under intense pressure to meet their earnings forecasts for two reasons. First, earnings guidance induces investors to place too much emphasis on meeting or beating earnings targets, resulting in extreme price drops when firms fail to meet targets (Skinner and Sloan [2002]). Second, managers may face loss of reputation and credibility if they are unable to deliver on their forecasts (Graham et al. [2005]). The pressure to meet short-term earnings targets in turn precipitates actions that destroy long-term shareholder value, such as reduction in R&D spending or cancellation of marketing campaigns, when the firm is otherwise in danger of not being able to meet its forecast. Fuller and Jensen [2002] argue that this "earnings game" even disrupts budgeting and planning processes in organizations.

earnings guidance. This view suggests that the real reason for corporations to stop is due to poor performance. In other words, if the firm would have performed better, they would never have stopped quarterly earnings guidance. This view is supported by academic researchers such as Chen, Matsumoto and Rajgopal [2007] and Houston, Lev and Tuckers [2007].[4]

Is guidance superfluous, an unneeded metric on an already overloaded financial landscape or its elimination is another step into opaqueness and a lack of transparency -- just an extension of the clouded climate that's in part responsible for the financial crisis in the first place? The empirical question remains whether the action of stopping quarterly earnings guidance should be viewed as improving a firm's value by creating long-term strategy or as deteriorating a firm's information environment by less transparency caused by poor performance. Despite numerous studies related to quarterly earnings guidance, whether starting or discontinuing quarterly earnings guidance, most of them concentrate on the association between earnings guidance and firm performance, while little evidence is gathered to examine the association between earnings guidance and corporate governance with the exception of Sengupta [2004], Ajinkya, Bhojaj and Sengupat [2005],

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[4] In particular, Chen et al's study (2005) shows that a firm that public announces discontinuing quarterly earnings guidance has poorer market performance before the stop event and the market reacts the stop event in a negative way. Specifically, they found an average negative 4.8% three-day return around the announcement to stop guidance and this reaction is associated with poor future performance. After the elimination of guidance, stock prices lead earnings less but there is no change in overall stock return volatility or analyst following. However, analyst forecast dispersion increases and forecast accuracy decreases following firm's decision to stop guiding, despite increased disclosures made in earnings press releases. In addition, Houston et al's study compared the performance of two groups: firms maintaining quarterly earnings guidance (MAINTAINERS) and firms stopping this practice (STOPPERS) and found that STOPPERS have poorer earnings performance and market performance than MAINTAINERS. Furthermore, in terms of long-term investment, Houston et al found that R&D Expenditure (expensed for current period) is reduced after the stoppage decision to push up the short term performance.

Karamanou and Vefeas [2005], and Chan, Faff, Mather and Ramsay [2007][5]. These four

papers examined the association between corporate governance and earnings forecasts

and found that stronger corporate governance foster earnings guidance practice, measured

by the tendency to provide earnings guidance, its frequency, its accuracy and bias[6].

Despite its merits, these studies did not specifically establish the association between

corporate governance and quarterly earnings guidance, and used the firms before 2000

when Regulation Fair Disclosure was passed and even before 2002 when Sarbanes-Oxley

Act was in effect. Furthermore, their studies did not control for the potential unintended

consequence of managerial myopia. Due to limitations in their studies, the association

between corporate governance and quarterly earnings guidance is still an unsolved puzzle,

especially in the recent trend that more corporations stopped quarterly earnings guidance.

Therefore, this study aims to bridge the gap of corporate governance and quarterly

earnings guidance under the light of managerial myopia when a firm discontinues

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[5] A huge amount of previous research, such as MacAvoey et al (1983), Hermalin and Weishbach (1991), Mehran (1995), Lin (1996), Cotter, Shivdasnai, and Zenner (1997), Weisbach (1988), Klein(1998), and Bhagat and Black (2000)) concentrates on the corporate governance and firm performance, and find that strong corporate governance, represented by board independence, small board size, splitting of CEO duality, higher institutional ownership, and higher equity based CEO compensation is positively associated with firm performance.

[6] Ajinkya, Bhojaj and Sengupta (2004) find that firms with more outside directors are more likely to release their quarterly earnings figures early and are inclined to forecast more frequently. In addition, their forecasts tend to be more specific, accurate and less optimistically biased. Their results are robust to change specification, Granger causality and simultaneous equation analyses. Karamanou and Vefeas (2005) also find that board independence is positively associated with earnings forecast practices. In firms with higher proportion of outside board, managers are more likely to make or update earnings forecast and their forecast is less likely to be precise, more accurate and it elicits a more favorable market response. Chan, Faff, Mather and Ramsay (2007) examined the impact of independent director reputation on characteristics of management forecasts. Their study extends the literature by refining the previously used proxy for director independence and by distinguishing between routine and non-routine forecasts and find a significant positive relationship between the likelihood and frequency of firms issuing management earnings forecasts and the measures of audit committee independence and independent director reputation but not board independence.

quarterly earnings guidance by examining this association between corporate governance and the decision to stop.

Following the managerial argument proposed by Bhojraj and Libby [2005] and Cheng, Subramanyam and Zhang [2005], this study also examines the following question: what's the impact of quarterly earnings guidance discontinuity on firm's long-term investment? Although Cheng et al [2005] found that frequent-forecast-firms invest less on corporations' capital expenditure and R& D expenditure than occasional guiders, they did not separate firms that originally forecasted frequently but later discontinued their forecasts. Therefore, this study uses STOPPERS as a unique sample to investigate whether the capital and R & D expenditures are less in the post-stoppage period than in the prior-stoppage period.

Interestingly, among corporations that discontinued quarterly earnings guidance, some restarted quarterly earnings guidance after being silence in several years, according to the study by Houston et al. [2007]. Why firm restart again? Following the performance argument proposed by Chen, Matsumoto and Rajgopal [2007] and Houston, Lev and Tuckers [2007], is it because of the improved performance? Or following the expectations management argument from Ajinkya and Gift [I984], is it due to the pressure from the analysts and investor on the short-term performance of a firm or even due to the whole US capital system? This study examines the association between firm performance, expectations management and a firm's decision to restart quarterly earnings guidance.

II.RESEARCH QUESTION AND MAIN FINDINGS

This paper proposes and examines two research questions on quarterly earnings guidance. The first research question relates to the stop event and the second is on restart event. In particular, the first research question asks: what's the role of corporate governance in the stop decision? Following the stop decision, what's the impact of this discontinuity on Research and Development and capital Expenditure? The second research question is why they restart this practice after becoming silent.

For the first research question, I examine the association between board independence, institution ownership, CEO compensation and the decision to stop quarterly earnings guidance. Both the performance argument (Chen, Matsumoto and Rajgopal [2007] and Houston, Lev and Tuckers [2007]) and managerial myopia argument (Cheng, Subramanyam and Zhang [2005]) provide different predictions on this association. In particular, if the board and institution investors weight more on transparency than on a firm's long-term development, a negative association between strong corporate governance and the probability of stop should be found. On the contrary, if the board and institution investors weight more on a firm's long-term development over its transparency, a positive association should be found. Furthermore, Bushee [1998 and 2000] suggests heterogeneity among institution investors and classifies them into transient institution investors, quasi-index institution investors and dedicated institution investors. Due to their differences in information preference and holding sensitivity on the information environment, a potential link of types of institutions investors and the stop decision should be observed. In addition, the managerial incentives and stock compensation argument (Miller and Piotroski [2000] and Nagar [2003]) suggests that

managers issue forecasts for reasons that are consistent with their own self-interests or incentives instead of shareholders' interests. In particular, Gong, Feng and Li [2007] find a significant reduction in cash bonuses for CEOs when they issue optimistic earnings forecasts, and the magnitude of bonus reduction increases with the extent of optimism in management earnings forecasts. Their study indicates that CEOs compensation on cash and cash bonus has a negative impact on a firm's forecast behavior. In addition, Miller and Piotroski [2000]'s empirical study shows that CEOs with a higher level of the stock options with respect to total shares outstanding are more likely to forecast. Nagar, Nanda and Wysoski [2003] argues that managers with greater levels of equity-based compensation issue more frequent forecasts(measure both the annual and quarterly forecast of earnings, sales and other qualitative information and the AIMR ratings for disclosure) to avoid equity mispricing that could adversely impact their wealth. Therefore, a potential link should be observed between CEO compensation character and a firm's decision to stop quarterly earnings guidance.

Using an industry-year-quarter matched sample of 1610 firms (the STOPPERS and MAINTAINERS) from 2001 to 2006, I find that a firm is more likely to stop quarterly earnings guidance when its board is more independent, institution ownership is lower, the dedicated institution ownership is higher and the level of cash proportion of CEOs compensation is higher compared to a firm that does not stop. In addition, I also find a firm is more likely to stop when both past and future expected earnings performance are poorer or more difficult to predict. Furthermore, I find that a firm is more likely to stop when the management is over optimistic and when litigation risk is low.

Second, this study examines the impact of quarterly earnings guidance discontinuity on a firm's capital expenditure and R&D expenditure and finds that STOPPERS have higher levels of capital expenditure and R & D expenditure in the subsequence years following the stop event. This evidence suggests that due to the unintended consequence of quarterly earnings guidance as managerial myopia, firms that stop quarterly earnings guidance do increase the long-term investment.

Third, using an industry-year-quarter matched sample of 342 firms (the RESUMERS and NONRESUMERS) from 2004 to 2008, I find that compared to the nonrestarting firms, it finds that a firm is more likely to restart when its past and future expected earnings and market return become higher, or when the prevailing market expectations is higher to beat/meet or when the earnings are less difficult to predict. In addition, it finds that the R & D expenditure of the RESUMERS are higher than that of the NONRESUMERS in the three years before the restart event, which implies that the RESUMERS increase R & D and capital expenditure after the stoppage, and improve the firm performance.

The robustness analysis also supports the main findings. It first examines whether SWITCHERS (18 firms that stopped quarterly earnings guidance and switched to annual earnings forecast) will change the results and find that results are robust. Second, it examines whether the Sarbanes-Oxley Acts has any impact on the discontinuity of quarterly earnings forecast by designing two subgroups: firms before SOX Act as one subgroup and firms post SOX Act as another subgroup and finds that results are more significant in the post-SOX Act period. Third, considering the market condition between 2004-2006 and 2007-2008, I also test the year impact on a firm's decision to restart and

separate RESUMERS into two groups, one group restart between 2004 and 2006 and the other restart between 2007 and 2008. The results show that a firm's decision to restart is more sensitive in period of 2004 to 2006.

III. RESEARCH CONTRIBUTION

This study contributes to the prior literature through the following aspects:

First, this study is the first study to examine the role of board independence, institution ownership, types of institution investors and CEOs compensation in a firm's decision to stop quarterly earnings guidance. This phenomenon of quarterly earnings discontinuity is very timely, controversial and important given the declining U.S. economy in 2008, especially when more and more firms (such as GE) announced to stop quarterly earnings guidance and when an increasing awareness of the costs of quarterly earnings guidance emerges in the public, advocated by several leading institutions such as Aspen Institute and the Committee of Economic Development, and Department of Commerce. Therefore, this study provides timely evidence of understanding this trend and suggests implications for policyholders and other interested parties.

Second, this study also contributes to the corporate governance literature by studying the role of board structure, ownership characteristics, and CEO compensation in mitigating the corporate disclosure agent problems. The effect of corporate governance on this disclosure agency problem is not extensively examined in the literature even though the effect of corporate governance is examined in several other issues. As mentioned above, several studies (Ajinkya, Bhojraj and Sengupta [2004], Nagar, Nanda and Wysoski [2003]) have examined this association, however, most of them use data

prior Regulation FD and use different measures without a specific research design on quarterly earnings guidance. In particular, this study provides additional evidence of managerial myopia on quarterly earnings guidance, a side effect of the separation of the duty for the management and the principle. As a result, this study is the first study to examine the association between the outside directors, institutional ownership and CEOs compensation and the stop decision of quarterly earnings guidance.

Moreover, this study also extends the literature of disclosure, especially on the association between firm disclosure and firm performance, between disclosure and expectations management, between disclosure and management reputation and between disclosure and litigation risk.

In addition, this study bridges the literature of firm investment decision and voluntary disclosure. Previous studies such as Cheng, Subramanyam and Zhang [2005] and others have found that disclosure might have adverse impact on a firm's investment due to the pressure from the analysts and investors as short-term focus, especially on a firm's capital and R & D expenditure. This study provides additional evidence as to examine the impact of quarterly earnings guidance discontinuity on a firm's decision to invest and finds that a firm's disclosure policy did have a negative impact on its investment policy. However, this link is valid only for quarterly earnings guidance with a short-term focus.

Furthermore, it is also the first study to examine the motivations for the management to restart quarterly earnings guidance. Thus it provides a more comprehensive picture through the comparison on both stopping and restarting decisions. Performance argument

is used to explain the restart event and the findings are consistent with the previous theory that a firm with good news is more likely to forecast. In addition, this study also examines the theory of "expectation adjustment" proposed by Ajinkya and Gift [1986]'s, and finds that the management tends to use earnings forecast to adjust the market expectations by releasing timely information of quarterly earnings guidance when a firm restarts quarterly earnings guidance.

IV. CHAPTER ORGANIZATION

The remainder of the thesis is structured as follows. Chapter 2 presents background of quarterly earnings guidance and relevant literature review of earnings guidance and corporate governance. Chapter 3 discusses the hypothesis development. Chapter 4 presents model specification and sample selection. Chapter 5 describes data selection and research results. Chapter 6 concludes the main study, by presenting the research implication, limitation and further research opportunities.

CHAPTER 2 BACKGROUND AND LITERATURE REVIEW

King, et al. [1990] defined management earnings forecasts as voluntary managerial disclosures predicting earnings prior to the expected reporting date. Miller [2002] argues that earnings guidance represents any manager-provided information that guides outsiders in their assessment of a firm's future earnings, both directly and indirectly. Thus, earnings guidance might include, but need not be limited to, earnings forecasts.[7]

Understand the regulatory forces throughout the history can provide a detail illustration of how earnings guidance has evolved and facilitate a comprehensive understanding of its related literature. Five significant changes in the U.S. regulatory environment have occurred over the last four decades and shaped the earnings guidance practice. Before 1970's, forward looking information is prohibited in the corporate financial reporting. So the practice of many firms before 1970 is to have annual meetings with analysts once or twice in one year[8]. With the development of the semi-conductor in the late 1960s, start-up companies begged for a new medium to distribute their growth prospects. The electronic conferences became that means and from those conferences

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[7] Although earnings forecasts are commonly issued well in advance of quarterly and annual earnings releases, they are sometimes provided after the accounting period has ended but before the earnings are announced. These latter forecasts are typically referred to as earnings preannouncements. When management forecasts indicate substantial shortfall from expected earnings, they are commonly termed earnings warnings (Kasznik and Lev 1995). Even though preannouncements are technically earnings forecasts, most of the literature treats them as early earnings announcements rather than late earnings forecasts. The term earnings guidance often is used synonymously with earnings forecasts.

[8] One cited AMP's IRO as an example. Bill Oakland, was the company's only contact for analysts. AMP ran one analyst meeting a year, in which all of senior management was on display, but Bill was available throughout the year and he would provide earnings guidance for the year and the quarters in terms of a range. As the reporting period neared, the range was narrowed to a couple of pennies and then a single figure. Hill said there were never any reporting surprises at AMP and no volatility in the stock following a quarterly report.

emerged the concept of "breakout sessions." it was not until the late 1970s that the broke sponsored annual conferences emerged.

Starting from 1973, the Securities and Exchange Commission (SEC) allowed firms to include forward-looking information in their regulatory filings. In order to motivate the management to provide more forward-looking information, the SEC in 1979 provided Safe Harbor Act to shield firms issuing forecasts from litigation related to forward-looking disclosures.

In the 1980s, the plaintiff began using the SEC's Rule 10b-5 as a basis for suiting companies that missed their estimates, alleging the companies' executives defrauded their investors with rosy projections. The popularity of lawsuits in the early 90s caused many companies to curtail projections to avoid strike suits under 10b-5. A typical scenario was as follows: A company would miss the Street's earnings consensus number with normally on the downside resulting in a 20 percent decline in stock price. Within hours, one of these firms would file a strike suit against the company and several of the other plaintiffs' firms would pile on alleging senior management defrauded its investors. Over 90 percent of companies, rather than fight these cases in court, settled at an average cost of $8 million. The plaintiff firms took some 30 percent of the settlement and the shareholders represented in the suit received mere pennies. In the early 90s, over 300 of these strike suits were filed each year.

In 1996, the Private Securities Litigation Reform Act (PSLRA) extended the safe harbor so that firms cannot be easily sued for forecasts that do not materialize. This additional protection kept the door open to continuation of earnings guidance.

Prior to Regulation Fair Disclosure ("Reg FD"), many companies worked closely with analysts in the development of their earnings estimates. Analysts often emailed their detailed spreadsheets to members of the firm's investor relation group, who reviewed the earnings model and either provided detailed comments (for example, estimates of cost of goods sold are too high, sales growth for the fourth quarter too low) or simply indicated whether management was comfortable with the analyst's forecasts. Presumably both sides benefited: analysts produce more accurate forecasts informed by management's nonpublic company information, and firms experienced fewer negative earnings surprises. In early 2001, NIRI surveyed its entire membership on the effects of Reg FD. Of the total of 2,636 firms, 577 firms (21.9 percent) responded to the survey. Out of the 421 usable respondents, 360 firms (85.5 percent) reviewed analyst earnings models prior to Reg FD. Of the 61 firms (14.5 percent) that did not review analyst earnings models prior to Reg FD. 50 firms neither reviewed analyst earnings models nor provided public forecasts of earnings. Private Business, Inc. 2003 demonstrates the link between its guidance policy and managerial reviews of analysts' earnings models. The press release states, "The Company will no longer provide any guidance on its earnings for the year ending December 31, 2003, and thereafter. As part of this policy, Private Business will also no longer review or comment on any financial models or earnings estimates on the Company."

The regulatory attitude of fostering earnings guidance starts to reverse due to a term called "selective disclosure", when a firm selectively discloses its future expectations to its big clients such as investment banks. Then in 1998, former SEC Chairman Arthur Levitt, in a speech before the Financial Executives Institute, labeled the earnings

guidance process a "game of winks and nods" between companies and certain analysts, thereby creating an un-level playing field. The SEC then began crafting draft rules for Regulation Fair Disclosure. Therefore, in 2000 SEC passed Regulation Fair Disclosure (Reg. FD) to mandate that material information cannot be disclosed selectively. Regulation FD prohibits issuers, senior officials of the issuer, or any other officer, employee, or agent of the issuer who regularly communicates with securities market professionals or the issuer's security holders, from selectively disclosing material, nonpublic information to a class of persons outside the issuer where there is no simultaneous disclosure of the information to the public[9]. Professional associations representing the analyst/institutional investor side, along with securities lawyers, opposed the proposed Regulation FD largely based on the fear that the rule would severely chill information that companies would be willing to share with the investment community.

Later on, with the increasing number of corporate corruptions such as Enron and Worldcom, Sarbanes-Oxley Act in 2002 put severe legal consequence on the management for their forecasts, leading to a reverse trend of popularity. As a summary, the first four regulatory changes fostered more freely disclose forward-looking information (including earnings forecasts). According to McKinsey & Co. study (1994-2001), only 92 of 4,000 companies (2.5%) with revenues over $500 million

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[9] This class of persons includes: (1) broker-dealers; (2) investment advisers and certain institutional investment managers; (3) investment companies and hedge funds; and (4) any holder of the issuer's securities under circumstances where it is reasonably foreseeable that the holder would purchase or sell securities on the basis of the information disclosed. Regulation FD case: On March 24, 2005, the Securities and Exchange Commission filed its first Regulation FD enforcement case involving a reaffirmation of earnings guidance by an issuer and against an investor relations officer for violating this rule. The settled enforcement action was against Flowserve Corporation, its Chairman, President and Chief Executive Officer, C. Scott Greer, and its Director of Investor Relations, Michael Conley. Flowserve and Greer also consented to the entry of final judgment by a federal court requiring them to pay civil penalties of $350,000 and $50,000, respectively.

provided earnings guidance at least once in 1994 while about 1,200 of 4000(30%) firms with over $500 million in revenues annually provided earnings guidance at least once in 2000.

I. RECENT TREND OF QUARTERLY EARNINGS GUIDANCE

With the passage of Regulation FD and SOX Act, a reversing trend emerged as many U.S. corporations started to reverse the popularity of quarterly earnings forecast by announcing to stop this practice from year 2000. This trend was led by prominent firms such as Coco-Cola, AT&T, McDonalds, and GE (Figure 1 illustrates the public announcements and the stated reasons)[10]. For example, on December 13, 2002, the Coca Cola Company announced that it would stop providing quarterly and annual EPS guidance to financial analysts, stating that

> *"The company hoped the move would focus investor attention on long-run performance and discontinuing quarterly earnings guidance would help the company focus on long-term objectives, such as expanding its business into new markets, without having to worry about meeting short-term earnings targets"* (McKay and Brown [2002]).

Shortly afterwards, AT&T and McDonalds made similar announcements. This trend of discontinuing quarterly earnings guidance increases in 2004. On September 14, 2004 Callaway Golf announced that it is suspending previously announced quarterly and annual earnings guidance in an effort to fully review the business given the appointment of new Chief Executive Officer William C. Baker. Year 2006 also observes the trend of

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[10]   The list of the firms that announced to discontinue quarterly earnings guidance in public are as followings(the list is inclusive and many firms in this study also include firms that stop this practice without announcements to the public): Coco-Cola and AT&T, McDonalds, and GE Payless Shoesource, Home Depot, Consol Energy, Microstrategy, Tweeter Home Entertainment, WABTEC Corp. Technitrol, Leapfrog Enterprises, Novell, MEDCATH Corporation, Central Parking, Haverty Furtniture, Copart, Guess, Bob Evans Farms, Forest Oil Corp. ASTEC Industries Calgon Carbon Corp. Principal Financial Group, West Point Systems,
Action Performance, Int'Flavors & Fragnrances, Penton Media Corp.

discontinuing. On Oct 19, 2006 DCT Industrial Trust Inc., a Denver, Colorado-based industrial Real Estate Investment Trust (REIT), announced today that it has suspended its previously issued 2006 earnings guidance.

Following the "short-termism" argument in corporate world, several independent organizations also proposed changes on quarterly earnings guidance. For example, the CFA for Financial Market Integrity and the Business Roundtable Center for Corporate Ethics published a white paper, "Breaking the Short-Term Cycle," in 2006, thus called for discontinuing quarterly earnings guidance to shift the management's attention to the long-run performance by listing costs and negative consequences of the current focused, quarterly earnings guidance practices, including (1) unproductive and wasted efforts by corporations in preparing such guidance, (2) neglect of long-term business growth in order to meet short-term expectations, (3) a "quarterly results" financial culture characterized by disproportionate reactions among internal and external groups to the downside and upside of earnings surprises, and (4) macro-incentives for companies to avoid earnings guidance pressure altogether by moving to the private markets. Corroborating research identifies the most significant costs of issuing guidance to be management time (which 53 percent of respondents identified as very costly), a focus on short-term earnings (42 percent), and employee time (35 percent). This white paper looks not only at the corporate side of the issue, but takes a hard look at the incentives for short-term behavior coming from the analyst/investor side. Most of the incentive compensation programs for asset managers are short-term focused, i.e. quarterly, which puts pressure on companies to guide on a quarterly basis since the investor side is being

evaluated quarterly. This short-termism task force had four recommendations to deal with this:

1. "Align corporate executive compensation with long-term goals and strategies and with long-term shareholder interests. Compensation should be structured to achieve long-term strategic and value-creation goals.

2. "Align asset manager compensation with long-term performance and with long-term client interests.

3. "Improve disclosure of asset managers' incentive metrics, fee structures and personal ownership of funds they manage.

4. "Encourage asset managers and institutional investors to develop processes for ensuring that the companies in which they invest use effective, long-term, pay-for-performance criteria in determining executive compensation."

In March 2007, an independent commission established by the U. S. Chamber of Commerce issued a report, in which one of the primary recommendations focused on ending the practice of quarterly guidance.

"Convince public companies to stop issuing earnings guidance or alternatively, move away from quarterly earnings guidance with one earnings per share (EPS) number to annual guidance with a range of EPS estimates."

In June 2007, the Aspen Institute released a set of principles for long-term value creation for U.S. firms and advocated against the use of quarterly estimates. Interestingly, the Aspen report was signed by a wide-ranging coalition of business and investor organizations, large companies, pension funds, and trade unions, including prominent individuals such as investor Warren Buffet. The following statement of U.S. economist Peter Dawson sheds some lights on their stands on the quarterly earnings guidance.

"Quarterly guidance, has encouraged a short-term mentality in corporate operations, one that's not conducive to longer-term planning, and ultimately, sustainable growth."[11]

On March 3, 2007 New York Times titled "Reporting for Duty" by Robert Pozen, a member of the Chamber's commission, former head of Fidelity Asset Management and now a professor at Harvard University. Mr. Pozen concluded his opinion piece saying,

"If we want American companies to take a long-term approach, we must help chief executives free themselves from the tyranny of projecting quarterly earnings. Of course, American executives will still feel pressure to meet the Wall Street consensus on quarterly earnings. But that pressure will be much lower if company chiefs are not trying to meet their own public predictions."

A National Bureau of Economic Research report of 401 senior financial executives where "80 percent said they were willing to forego spending on research and development to meet their predictions, while 55 percent were willing, for the same reason, to delay projects that promise gains in the long term for their company." When looking at the costs of providing guidance, 53 percent cited management time and 42 percent cited focus on short-term earnings.

In 2008, as the U.S. economy started recession, this trend of discontinuing quarterly earnings guidance becomes increasingly popular. In particular, in December, 2008, General Electric (GE) CEO Jeffrey Immelt stated that GE would no longer provide specific quarterly earnings guidance when delivering his annual investor outlook on Dec 16th 2008. He also mentioned that short termism was the unintended cost of quarterly earnings guidance for GE to stop quarterly earnings guidance.

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[11] Quote from "Is company quarterly guidance necessary?" By Joseph Lazzaro posted on Feb 9th 2009, at WWW.BLOGGINGSTOCKS.COM

"The relentless focus on "the number" can drive companies to engage in short termism at the expense of the company's long-term future. At the extreme, narrowly defined earnings guidance can be a catalyst for earnings management and outright fraud."

The spillover has also gone into technology, and the companies which have adopted this are setting the trend that it might now be irresponsible to offer guidance. Intel said it was not going to issue formal guidance, and only provided a one-quarter internal revenue target with expectations for much lower margins. Then a week later, it sent an internal memo to employees warning that it could have its first quarterly loss in two decades. Microsoft also lowered guidance, but with no real forward targets. It even noted the lack of transparency in its lower guidance. Advanced Micro Devices (AMD) just lowered guidance, but not with any formal targets. EBay does not even look quite as rigid in its own offering of an outlook for a full year or more. Even chip giant Texas Instruments only gave earnings and revenue guidance for one quarter and that guidance was a very wide range compared with the past, with annual targets only being forecast for certain expense items and internal operating expectations.

This trend also extends to other industrials due to the difficulty to predict under the turmoil economic development. CarMax Inc. announced on Jun 18, 2008 that they would suspend the earnings guidance for 2009 based on "the combination of the uncertain economic conditions, rising fuel and food costs and weak consumer sentiment, exacerbated by the rapid depreciation in SUVs and trucks." On Oct 30, 2008, O'Charley's also suspended earnings guidance for 2008 due to current conditions in the general economy and casual dining industry, and the resulting uncertainty about future

performance. Lithia Motors Inc. announced on April 29, 2008 that it was withdrawing its earnings guidance for the second quarter and year-end 2008:

> *"While we remain confident in our response to the sudden and unexpected increase in the price of oil and the resulting shift in consumer demands, we have not been immune to the drop in national sales volumes for most every manufacturer we represent. Until these factors stabilize, predicting future earnings is difficult."*

In 2009, with the deterioration of the US economy, more firms reconsider the earnings guidance practice. On April 23, 2009, LSI Industries Inc announced that it is withdrawing its previous fiscal 2009 guidance issued on January 22, 2009, and stated that it will suspend providing sales and earnings guidance due to the difficulty in providing reasonable estimates of future operating results considering the uncertainty of the economy and resultant outlook for the lighting and graphics markets. One of the largest paper and packaging manufacturing firms Smurfit Kappa on May 09 2009 effectively ditched its previous earnings guidance, saying it's too difficult to judge the outcome for the remainder of the year since the environment is currently "conducive to guidance, and uncertainty and volatility in the climate wouldn't make guidance sensible for anybody." This trend of discontinuing quarterly earnings guidance also extends to Canada. On February 12, 2009, Gildan Activewear Inc announced its financial results for the first quarter of its 2009 fiscal year, and suspended its EPS guidance for the full fiscal year, due to increasing uncertainty about macro-economic conditions and the potential impact of the economic and financial crisis on Gildan's served markets and customer base.

Responding to the increasing trend of quarterly earnings guidance discontinuity, the National Investor Relations Institute began tracking trends in earnings guidance in 2003. The survey lasts 5 years, covering 2003, 2005, 2006, 2007 and 2008. Figure 2 lists the

main findings of the survey. Overall, the survey finds that some 70 percent of companies are providing earnings guidance with a clear trend toward annualized guidance with quarterly updates; however attitude towards quarterly earnings discontinuity changes among different years. In 2003, 77% provide EPS Guidance, among which 75% are range, 9% are point estimate, 53% are annually, 16 % are quarterly and 22% are both annually and quarterly. 19% consider the discontinuity of EPS guidance but 27% fear of losing analyst interest, 49% claim no impact on them. In 2005, survey suggested a trend toward firms discontinuing guidance or moving toward providing annual guidance only. In particular, this survey reports that 71% of respondent firms provide some form of guidance (Thompson 2005), down from 77% in December 2003 (Thompson, 2003b). Moreover, the percentage of firms giving quarterly guidance has declined from 75% to 61% and the percent giving annual guidance only has increased from 16% to 28%. In particular, this survey reports that 82% of respondent firms provide some form of guidance with 52% as annual guidance. As to discontinue the guidance, 14% say that they will consider, but among them, 47% claim that they are due to a change in management philosophy, 27 % rely on changing industry trends to discontinue while 25 % fear with a low earnings visibility. In 2007, the survey finds that 71% of the firms provide guidance, among which 77% are EPS guidance while 71% are revenue guidance. In 2008, 71.8 % of the firms still provide guidance, with 28.2 annual guidance, 18.3% quarterly guidance and 19.7% both annual and quarter guidance and 5.6 % of selective period guidance. As to the future EPS guidance, 54.3% respond to reduce the frequency, while 5.7 % prefer increasing the frequency with 40% consider discontinuing earnings guidance. As to the impact of discontinuing earnings guidance, 43.7% held that no

changes could be attributed to this change, while 6.3% think it will increase stock price volatility and 6.3% think it will reduce the analyst coverage and 18.7% think this change will shift away from a short-term, quarter to quarter focus.

Apart from survey evidence from NIIR, McKinsey & Co. also conducted a survey in 2006. It found that 75% of participating companies were providing earnings guidance and 48 % were doing so on a quarterly basis. As to the future change of this practice, 83 % said they have no plans to change their guidance policies and 67% said they have not changed the frequency of their guidance in the past three years.

The deteriorating US economy in 2008 and 2009 also increases the earnings guidance practice across industries. According to a study by Fontenot and Loew [2009], in which they compared two groups: fifty largest public companies (Bloomberg fifty) and 22 large technology companies (technology group), approximately 40 percent of the companies in the Bloomberg fifty provided annual earnings guidance for 2009, but less than 10 percent provided quarterly earnings guidance. Less than 15 percent in the technology group provided annual earnings guidance, while more than one-third provided quarterly earnings guidance. Additionally, many companies that provided guidance as an absolute number or range in 2008 either began providing guidance as a range (where previously absolute) or moved to a more expansive range in 2009, reflecting relative uncertainty about future earnings. Companies in the banking and financial sectors generally provided no earnings guidance, reflecting the rapid, dramatic changes occurring in that industry, as well as the difficulty of predicting the performance of global securities markets, to which many of those companies' operating results are subject. Nor did companies in the energy sector provide earnings guidance, perhaps due to similar

forecasting challenges associated with the commodities markets. Most energy companies, however, provided estimates of future capital expenditures, reflecting the materiality of new investments to those companies' future businesses and the relative confidence with which capital expenditures could be accurately predicted.

Fontenot and Loew [2009] study also found that firms that stop earnings guidance are more due to current economic circumstances(difficulty forecasting future results due to market volatility and uncertainty in global economic conditions) than a response to the long-standing call by many corporate governance proponents to move away from quarterly guidance. Of those companies not providing earnings guidance for 2009, less than 10 percent of those in the Bloomberg fifty provided quantitative revenue guidance, while over half of those in the technology group provided revenue guidance. In addition, numerous companies not providing earnings guidance for 2009 nevertheless provided guidance with respect to specific line items that they had confidence in their ability to forecast, such as operating expenses, capital expenditures, retirement costs, research and development, depreciation and amortization, or restructuring charges and potential operating developments specific to the company.

Many scholars held a different view against discontinuing quarterly earnings guidance based on short-termism. Economist David H. Wang argued that guidance is both a key metric, and like it or not, it's ingrained in the U.S. financial system.

> *"Some ratings agencies may disagree, but in my view a company's discontinuance of quarterly guidance is management's statement that they lack confidence in their operation, in their outlook in the quarters ahead. And the fact that companies are eliminating guidance during a recession, when times are bad, is all the more*

telling. If they view guidance as so destructive or unnecessary, why didn't they eliminate it during the economic boom?"[12]

A survey on sell side analysts also indicates the criticism on the validity from the management arguments. To examine the analysts' reaction of the discontinuity of quarterly earnings guidance in the corporate America, MWW Group's Financial Relations Board survey more than 100 sell side analysts to gain a better understanding of their preference of earnings guidance in environment of recession. Their findings revealed that most analysts understand the challenges presented by the economic slowdown and still believe that companies should continue provide earnings guidance. The majority of analysts indicated that there could be adverse consequences for companies that suspend earnings guidance, including damage to both stock price and management credibility. Interestingly, as to the alternatives to not providing earnings guidance, analysts propose a more frequent quarterly earnings guidance over annual guidance due to the visibility since they assume that companies should at least have some visibility into the next three months. In addition, analysts agree that a variety or a wider range of earnings guidance than normal point estimate should be preferred due to difficulties in the economy and guidance can take different form with a discussion of the sensitivity to key factors that will impact their business and to provide more insight into what causes the financial results to be at the high-or low end of the guidance range.[13]

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[12] Quote from "Is company quarterly guidance necessary?" By Joseph Lazzaro posted on Feb 9th 2009, at WWW.BLOGGINGSTOCKS.COM

[13] Their main findings include the following aspect: about 93% of analysts feel that it is inappropriate to stop earnings guidance given the uncertain economic environment, among which 26% prefer to continue to provide earnings guidance as usual, 40% prefer to continue to provide earnings guidance, but provide a wider range of earnings guidance than normal. 28% prefer to limit guidance to particular line items that they have more visibility on (e.g. operating expenses, gross margin. As to the practice of suspending earnings guidance, 72.4% of analysts argue that they will be more concerned about the outlook for the business and 76.3% think that the suspension will be penalized by the market for this decision. As to the

The interaction between the corporate disclosure and the analyst forecast adds complexity of the earnings guidance practice. In particular, the fundamental question arises is that analysts still need to provide their forecasts to investors. So the second question following is how analysts obtain information with regard to firm's future performance, given no earnings forecasts are from corporations. The following quotation from analysts surveyed may shed light on their considerations:

> *"Quarterly guidance is better than no guidance at all. The Street will still have "consensus" estimates, so even if the company doesn't bless the estimates, they still have to hit that bar or the shares will be penalized on the quarter.   So suspending guidance only creates a wider dispersion of expectations, which creates excess volatility, and keeps potentially new longer-term oriented shareholders on the sidelines."*

Due to the complexity of U.S. financial system ingrained with analyst forecasts and investor attentions on short-termism, exacerbated by the remuneration policy for analysts and their career path based on the accuracy of their forecasts, actions from corporations to discontinue quarterly earnings guidance might not be permanent.

Interestingly, among firms that discontinue quarterly earnings guidance, some actually restarted giving quarterly earnings forecast after several years silence, according to the study by Houston et al [2007]. Various reasons are cited to the restart event, including the visibility of future performance, improved performance, and management's expertise gained during the silence period. For example, Conn's, Inc. a specialty retailer of home appliances, consumer electronics, computers, lawn and garden products, furniture and mattresses, on January 08, 2009 announced earnings guidance for the

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switch guidance from guidance to non-guidance, survey finds that for companies that typically provide annual earnings guidance, 65% of analysts would prefer that companies switch to providing quarterly guidance rather than suspending guidance altogether. For the forms of guidance, 43% of analysts indicate that any range of guidance-no matter how wide- is still help.

quarter ending January 31, 2009. Though the Company previously suspended its issuance of earnings guidance, it is releasing this information on a one-time basis since it has completed the two biggest months of the quarter and due to the continuing turmoil in the economy in general and specifically in light of current retail market conditions. This strong performance under difficult economic conditions was driven by robust sales growth, and improved expense leverage.

II. LITERATURE ON MANAGEMENT EARNINGS FORECASTS

Previous literature has identified three stages on the management's forecast disclosure decisions. The first stage is that the management decides whether disclosure is necessary and chooses from many disclosure possibilities, such as earnings forecast, sales forecast, or management actions like shares repurchases. After making a decision of releasing a forecast, the management decides whether to publicly release the information or private release the information (Regulation FD prohibits the practice of private communication and select communication). The last stage is the decision on the form and content of earnings forecast (such as open-end earnings, point earnings, range earnings, maximum or minimum earnings or qualitative earnings), horizon (quarterly, semiannually or annually) and the timing of the forecast. This dissertation will concentrate on the first stage as to the decision making process for the management on issuing quarterly earnings guidance, therefore, the following literature review will focus on this particular aspect.

1. Information Asymmetry and Benefits of Managerial Forecast

Management earnings forecasts are voluntary disclosures that provide information about the future expected earnings for a particular firm, thus share similar presumptions

as voluntary disclosure literature (see an intensive summary paper by Healy and Palepu [2001] about voluntary disclosure literature). Basically, voluntary disclosure studies assume that, even in an efficient capital market, managers have superior information to outside investors on their firms' expected future performance and are concerned about the current perceptions of the firm's value. Financial disclosure diminishes agency problems by bridging the information asymmetry gap that exists between management and shareholders. Milgrom [1981] and Grossman [1981]'s theoretic studies suggest that in a voluntary disclosure scenario, managers with favorable (unfavorable) information than the average valuation assumed by the market will disclosure (withhold) and their firms' values will be revised upward (downward). Two types of information risk are discussed in the literature, as information risk through cost of capital and liquidation risk caused by informed and uninformed investors. Barry and Brown [1985, 1986] and Merton [1987] argue that when managers have more information than do outsiders, investors demand an information risk premium. Firms can reduce their cost of capital by reducing information risk through increased voluntary disclosure. Diamond and Verrecchia [1991] and Kim and Verrecchia [1994] suggest that voluntary disclosure reduces information asymmetry between uninformed and informed investors, and thus increases the liquidity of a firm's stock. Miller [2000] empirical study finds that these firms increases disclosures in response to earnings increases, still increases disclosure changes until the end period of strong earnings and decreases disclosures when earnings declines until its disclosure level reaches to the period of flat earnings. Bad news disclosure is beneficial as good news disclosure, if it reduces information risk more than it reduces expectations about cash flows.

Along this line, Lang and Lundholm [1993, 2000] propose that managerial forecasts are positively associated with the prospectus of future stock transaction and document that these analysts' ratings of disclosures are higher for firms issuing securities in the current or future periods. In addition, Healy and Healy [1999a and 2000] find that firms with increased analyst ratings of disclosures have an abnormally high frequency of subsequent public debt offers.

Another benefit of providing earnings forecast is proposed by Ajinkya and Gift[1984] as "expectations adjustment", which hypothesized that managers disclose forecasts to alter investors' earnings expectations, so that management have the incentive to release both favorable and unfavorable forecast.

Another benefit of earnings guidance is to build credibility with analysts, especially through bad news disclosure. Graham, Harvey and Rajgopal [2005] survey evidence finds that CFOs place a great deal of importance on acquiring such a reputation: 92.1% of the survey respondents believe that developing a reputation for transparent reporting is the key factor motivating voluntary disclosures.

Managerial earnings forecasts are associated with management self-talent or self-interests, which can be used as signal effect. For example, Trueman [1986] argues that talented managers have an incentive to make voluntary earnings forecasts to reveal their type. Hutton and Stocken [2007] also shows that prior forecast accuracy affects the credibility, or believability, of current forecasts, suggesting that the decision to forecast may be influenced by the firm's prior accuracy. Aboody and Kasznik's study [2000] shows that firms delay disclosure of good news and accelerate the release of bad news

prior to stock option award periods, consistent with managers making disclosure decisions to increase stock-based compensation. In a similar vein, Cheng and Lo [2006] and Rogers and Stocken [2005] find that insider trading is related to unfavorable management forecasts. Both studies suggest that managers have incentives to time their bad news forecasts to take advantage of a lower purchase price.

2. Costs Related to Managerial Earnings Forecasts

The theory of disclosure scenario predicts a fully revealing outcome where all firms disclose voluntary, except those with the worst news, however, this normative approach falls short to the fact that only 10-30% of the public firms' disclosure forecasts (Ajinkya and Gift [1984], Skinner [1994], Aboody and Kasznik [2000], Miller and Piotroski [2000]). Following the failure of normative theory approach, scholars attempt to provide alterative explanation of the constraints for full disclosure, referred as the "cost of disclosure" literature.

Firm-specific litigation risk (the threat of shareholder litigation) determines whether a firm issues a forecast or not. First, legal actions against managers for inadequate or untimely disclosures can encourage firms to increase voluntary disclosure. That is, managers often issue forecasts to preempt earnings disclosures, particularly when they involve bad news, and to avoid subsequent litigation and its cost (Skinner [1994, 1997]). A fail to preannounce bad news can lead to stock price pluming on the earnings announcement date. Short-run stock return volatility around the earnings announcement date attracts class-action lawyers who have computer programs that identify firms (for potential law suit) whose stock prices fall more than 20% in a few days. It is not as much

a question of whether a firm can win or lose a lawsuit, because most of them get settled out of court. The press coverage associated with the potentially frivolous lawsuit is another deterrent. Second, litigation can potentially reduce managers' incentives to provide disclosure, particularly of forward-looking information, especially when the prediction is inaccurate. Trueman [1997] studies the effect of litigation liability under SEC rule 10-b by imposing a cost for non-disclosure of bad news as well as for good news disclosures that turnout ex-post to be overly optimistic. He predicts and finds that managers will disclose bad news in a timely manner but withhold good news until it is realized. However, bad news disclosure to avoid litigation cost is not a straightforward answer. Due to the negative price reaction on the bad news, the management weights the benefit of reduced litigation risk and the stock price reduction caused by bad news. Several interviewed CFOs in Graham, Harvey and Rajgopal [2005] survey argue that they delay bad news in order to further study and interpret the information, or in hopes that the firm's status will improve before the next required information release, perhaps saving the company the need to ever release the bad information (e.g., interest rates might rise before year-end, correcting a current imbalance in pension funding).

Theory of proprietary cost proposes another cost of voluntary disclosure, since such disclosures can damage a firm's competitive position in product markets. Hayes and Lundholm [1996] argue that proprietary costs induce firms to provide disaggregated data only when they have similarly performing business segments. Piotroski [1999a] examines firms' decisions to provide additional segment disclosures and concludes that firms with declining profitability and with less variability in profitability across industry segments are more likely to increase segment disclosures.

Another unintended cost of quarterly earnings guidance is "management myopia", a term that describes the management's willingness to sacrifice long-term value creation to achieve short-term earnings targets. According to Porter [1992], myopia refers to sub-optimal underinvestment in long-term projects for the purpose of meeting short-term goals (e.g., Porter). This definition emphasizes three aspects: underinvestment in long-term projects occurs with the objective of meeting short-term goals, such as meeting/beating analyst earnings forecasts, which leads to sub-optimal in the sense of impairing long-term growth and value creation. Stein [1989], Bar-Gill and Bebchuk [2003] suggested that the degree of myopic behavior would be influenced by capital market incentives which determine the extent to which manager's care about short-term price relative to long-term value, even in the absence of agency frictions. Prior research documented the conflicts between short term goals and long term value creation activities. For example, Bhoraj and Libby [2005] document that using accruals or discretionary expenditures (such as R&D expenditure) to meet or beat analyst forecasts results in short-term positive impact on firm performance, but long-term underperformance relative to firms that do not manage earnings to meet forecasts. Although they have established a link between the frequency of required disclosure and the myopia pattern, their study did not specifically the impact of voluntary earnings guidance on managerial myopia.[14] The most recent study of management myopia and quarterly earnings guidance is by Cheng, Subramanyam and Zhang [2005]. This study argues that quarterly earnings guidance has

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[14] Specifically, Bhojraj and Libby [2005] conducted an experiment where they examine whether short-term capital market pressures can force managers to make myopic investment decisions. The experienced financial managers choose between projects where a conflict exists between near-term earnings and total cash flow. In response to a pending stock issuance, they choose projects that they believe will maximize short-term earnings (and price) as opposed to total cash flows. The myopic behavior is increased or reduced by increasing the frequency of required disclosure, depending on the earnings patterns of the projects involved and whether the firm is likely to issue stock.

unintended consequences as "managerial myopia" and finds that dedicated guiders invest

significantly less in Research & Development (R&D) activities than occasional guiders

so that they can meet/beat analyst forecasts more frequently than occasional guiders. As a

result, dedicated guiders have lower long-term (3 years) growth rate (ROA) than

occasional guiders. Cheng [2007]'s paper supports the prevalent view from the

management who argue that by discontinuing quarterly earnings guidance, they can

concentrate on the firms long-term strategy rather than short-term meeting/beating

analysts forecasts.

Recently, researchers also examined the impact of Regulation Fair Disclosure on a

firm's voluntary disclosure pattern. Prior to Regulation Fair Disclosure ("Reg FD"), some

management privately guided analyst earnings estimates, often through detailed reviews

of analysts' earnings models. Hutton [1995] paper examines the characteristics of the

private guidancers and finds that managers are more likely to review analyst earnings

models when the firm's stock is highly followed by analysts and largely held by

institutions, when the firm's market-to-book ratio is high, and its earnings are important

to valuation but hard to predict because its business is complex. A comparison of guided

and unguided quarterly forecasts indicates that guided analyst estimates are more

accurate, but also more frequently pessimistic. An examination of analysts' annual

earnings forecasts over the fiscal year does not distinguish between guidance and

no-guidance firms; both experience a "walk-down" in annual estimates. Unguided

analysts walk down their annual estimates when the majority of the quarterly earnings

news is negative; guided analysts walk down their annual estimates even though the

majority of the quarterly earnings news is positive. Yang [2007] studies the impact of

Regulation Fair Disclosure on a firm's disclosure policy and the economic consequences of this disclosure regulation. Using a new measure of private earnings guidance, she finds roughly half of the firms as private earnings guidancers replace private earnings guidance with non-disclosure instead of public earnings guidance, and as a result, these firms suffer significant deterioration in their information environments. Consistent with theory, firms are more likely to replace private earnings guidance with nondisclosure if they have lower information asymmetry and higher proprietary information costs.

3. Research on Management Earnings Guidance Discontinuity

Four papers have examined the phenomenon of discontinuity of quarterly earnings guidance directly, using different explanations. Chen, Matsumoto and Rajagopal [2006] and Houston, Lev and Tucker [2007] both propose that firms are more likely to stop quarterly earnings guidance due to poor earnings and market performance. In particular, Chen et al [2006] investigate 96 firms that publicly renounced quarterly EPS guidance in the post-FD period (10/2000 to 1/2006) and find that STOPPERS have poor trailing stock return performance and lower institutional ownership, proxied by the pension fund ownership. In addition, they examine the market reaction on announcement date and document an average negative 4.8% three-day return around the announcement to the stop decision due to expected poor future performance. Furthermore, they also examine analyst following characteristics, by finding that analyst forecast dispersion increases and forecast accuracy decreases following firms' decision to stop guiding, despite increased disclosures made in earnings press releases.

The weakness of Chen et al's paper [2006] is due to their research design. Since their study includes firms that announced stopping quarterly earnings guidance in public, implications of their study have limited to these firms and no evidence has been found to the firms that silently stop quarterly earnings guidance. To overcome their limitations, Houston, Lev and Tucker [2007]' study hence extends Chen's study by including both types of firms that announced quarterly earnings guidance discontinuity in public or not in public. In particular, they find that that poor operating performance (decreased past earnings, missing analyst forecasts, and lower anticipated profitability) is the major reason for firms to stop quarterly guidance. In addition, they find that contrary to the claim that firms would provide more alternative, forward-looking disclosures in lieu of the guidance; firms that stop quarterly earnings guidance did not increase other type of guidance. In addition, they also find that as a result of stopping quarterly earnings guidance, a deterioration in the information environment of guidance STOPPERS in the form of increased analyst forecast errors and forecast dispersion and a decrease in analyst coverage.

Brochet, Faurel and McVay [2008] and Feng and Koch [2007] provide alternative theories as "management talent and forecast optimism" to explain quarterly earnings guidance discontinuity. Brochet et al [2008] examine the relation between CFO turnover and the frequency and attributes of earnings guidance and find that among firms that issue forecasts regularly, earnings guidance is reduced in the quarters following the CFO turnover, and that new CFOs that do issue guidance tend to issue less precise forecasts. In addition, they also document that expertise of the new CFOs (proxied by industry knowledge and firm specific knowledge) and the abruptness of the turnover is negative

associated with the decision to withhold and the precision of their guidance. Feng et al [2007], on the other hand, argue that the stop decision is positively associated with the prior optimistic forecast behavior of the management. In particular, firms with a history of falling short of their own forecasts or analysts' expectations are at increased risk for falling short again in the future and they are more likely to stop when past management forecasts have been overly optimistic or when past forecasts have resulted in disappointments at earnings announcements and when past forecasts were accompanied by high levels of stock price volatility. In addition, they find that even firms continuing to guide give less precise guidance and guide for fewer quarters within a year when they have previously experienced adverse outcomes from issuing guidance.

As a summary, previous studies documented benefits of management earnings forecast, as reduced information asymmetry, reduced cost of capital and as a credible signal of management talent as well as its costs such as proprietary cost, and management myopia. However, a specific link of management myopia and the quarterly earnings guidance discontinuity has not been examined. In addition, with regard to the discontinuity of quarterly earnings guidance, the performance argument proposed by Chen at al and Houston et al and the management talent argument by Brochet et al and Feng et al also provide reasonable explanation to understand the discontinuity phenomenon.

III. LITERATURE ON COPROATE GOVERNANCE

Corporate governance refers to the set of mechanisms that influence the decisions made by managers when there is a separation of ownership and control. A variety of firm level mechanism is associated with the governance of the public corporation, classified as

the internal and external governance mechanism. The internal governance mechanism includes board of directors, the auditor committee, institutional ownership and insider's ownership. The external governance mechanism includes the takeovers and the market for corporate control. This paper concentrated on the internal governance mechanism, therefore, the following chapter focus on board characters and institutional ownership.

1. Board of Directors

a.   Board Independence

Under the NYSE Rules, independence occurs when a board member has not been and is not currently employed by the company or its auditor during the past three years and may not have a close relative who is an employee and the board member's employer doesn't do a significant amount of business with the company. However, no specific require was given by regulation that board of directors should be all independent except recommending that the majority of the board should be independent. The NYSE and NASDAQ rule in December 1999 required that listed firms to maintain audit committees with at least three directors, "all of whom have no relationship to the company that may interfere with the exercise of their independence from management and the firm". The Sarbanes-Oxley Act also extended the requirements of board independency. On August 16, 2002, the New York Stock Exchange filed proposed changes in listing requirements with the SEC that requires that "the board of directors of each listed company to consist of a majority of independent directors".[15] New listing standards, such as NYSE

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[15]   NYSE Listing Guide, Section 303.01(B)(2)(a); NASDAQ Market Listing Requirements Section 4310(c)(26)(B). NASD and NYSE Rulemaking: Relating to Corporate Governance, available at http://www.sec.gov/rules/sro/34-48745.htm NYSE CG Rules 303A.04-.07, specifically, CG Rules 303A.04(a), -.05(a), -.06, -.07(b)

Corporate Governance Rules, require public companies to have a majority of independent directors on their boards (with an exception for controlled companies). In addition, the new rules require that certain key committees be comprised entirely of independent directors such as audit committee, compensation committee and nomination committee.

Since board decisions are based on the information available to and provided by both insiders and outsiders, board composition shapes the information set of board members by affecting the strategic interaction between insiders and outsiders. Previous research has shown that outside directors are often thought to play the monitoring role inside boards. Fama [1980] and Fama and Jensen [1983] emphasize the fact that they have incentives to build reputation as expert monitors, followed by Kaplan and Reishus [1990] and Farrell and Whidbee [2003]. However, the monitoring role of the board includes both the monitoring on the firm performance, either through CEO selection or in special event such as takeover, or the monitoring role on the financial reporting process.

In terms of the monitoring role of firm performance, the primary question is to examine the association between board independence and corporate performance. Four research streams have investigated this association. One stream is the contemporaneous correlations between accounting measures of performance and proportion of outside directors on the board. MacAvoey et al [1983], Hermalin and Weishbach [1991], Mehran [1995], Klein [1998], and Bhagat and Black [2000] report an insignificant relationship between accounting performance measures and the fraction of outside directors on the board. A second approach is to use Tobin's Q as a performance measures. Hermalin and Weisbach [1991] and Bhagat and Black [2000] use this approach and find no noticeable relationship between the proportion of outside directors and Tobin's Q. Third, Bhagat and

Black[2000] examine the effect of board independence on long-term stock market and accounting performance and find insignificant relationship. One reason to explain the overall insignificant empirical evidence is from MacAvoy and Millstein [1999]. According to them, the measurement of board independence is the data that preceded boards taking an activist role. In their study, they use CalPERS' grading of board procedures and find highly positive association between the accounting based measures of performance and the board independence. Finally, the fourth research stream is to find stock market reaction related to director independence. Rosenstein and Wyatt [1990] examine the stock price reaction on the day of the announcement that outside directors will be added to the board and find that on average there is a statistically significant 0.2 percent increase in stock price in response to the announcement and shareholder wealth increases with the addition of outsiders to the board.

The most commonly discussed responsibility of the board is to choose and monitor the firm's CEO are more likely to remove poorly performing CEOs (Weisbach [1988] and nominate outside CEOs (Borokhovich, Parrino, and Trapani [1996]. The association between firm performance and board composition is also examined through the board's action on hiring and firing CEOs. Hermalin and Weisbach[1998] offer a model in which the firm's performance provides a signal of the CEO's ability and predicts that the CEO prefers a less independent boards, while the board prefers to maintain its independence. When a firm's good performance increases a CEO's bargaining power, the board independence declines. Alternatively, poor firm performance reduced a CEO's perceived ability, increasing the likelihood of replacement. In addition, their model also predicts that CEO turnover is more sensitive to performance when the board is more independent

and board independence increases following poor firm performance and board independence declines over the course of a CEO's tenure. Their predication is supported by Bhagat and Black [2000] and Hermalin and Weisbach [1988].

Previous studies also examine the role of outside directors in the corporate events such as takeover and tender offers. Research shows that firms with outsider-dominated boards are more likely to participate in major restructuring events such as merges, takeovers and tender offers (Lin [1996]).Cotter, Shivdasnai, and Zenner [1997] provide evidence that outside directors enhance shareholder wealth during tender offers.

In terms of financial reporting process, prior works suggest that managers acting in the best interests of the firm should enhance corporate transparency, including the likelihood of financial fraud, earnings management and earnings forecast. In particular, Dechow, Sloan, and Sweeney [1996] and Beasley [1996] find a negative association between outside directors and likelihood of financial fraud. Similarly, Klein [2002] documents a negative relation between outside directors and earnings management. The association between corporate governance and voluntary disclosure has also been examined extensively. Sengupta et al [2004] document that, firms with more outside directors are more likely to release their quarterly earnings figures early. Ajinkya, Bhojaj and Sengupat [2005] finds that more outside directors are more likely to issue a forecast and are inclined to forecast more frequently. In addition, their forecasts tend to be more specific, accurate and less optimistically biased. Their results are robust to change specification, Granger causality and simultaneous equation analyses. Karamanou and Vefeas [2005] also find that board independence is positively associated with earnings forecast practices. In firms with higher proportion of outside board, managers are more

likely to make or update earnings forecast and their forecast is less likely to be precise, more accurate and it elicits a more favorable market response. Cheng and Courtenay [2006] find that firms with a higher proportion of independent directors on the board are associated with higher levels of voluntary disclosure. Chan, Faff, Mather and Ramsay [2007] examine the impact of independent director reputation on characteristics of management forecasts. Their study extend the literature by refining the previously used proxy for director independence and by distinguishing between routine and non-routine forecasts and find a significant positive relationship between the likelihood and frequency of firms issuing management earnings forecasts and the measures of audit committee independence and independent director reputation but not board independence. In addition, they also find that director independence is related to more specific forecasts. Furthermore, these results are driven by the routine earnings forecasts over which management have greater discretion.

b. CEO Duality

   CEO duality refers the practice of one person serving both as a firm's CEO and board chair. Previous literature has predicated two opposite consequence for CEO duality. Agency theory suggests that CEO duality is negative associated with firm's performance because it compromises the monitoring and control of the CEO. Stewardship theory, in contrast, argues that CEO duality may be good for firm's performance due to the unity of command it presents. Three lines of research specifically examine the association between CEO duality and firm performance. One line uses accounting performance as a proxy (Peng, Zhang and Li [2007], Rechner and Dalton [2006]), however, the evidence is mixed. Peng, Zhang and Li [2007]'s study of 403 publicly listed firms and 1,202

company-years in China, finds stronger support for stewardship theory and relatively little support for agency theory. Rechner and Dalton [2006] examines the differential financial implications of these choices for 141 corporations over a 6-year time period. Results indicate firms opting for independent leadership consistently outperformed those relying upon CEO duality. The second line uses the market measurement of the performance as a proxy. Carapeto, Lasfer and Machera [2005] assess the market valuation of the decision of CEO duality and find splitting (combining) is associated with significant positive (negative) abnormal returns and these abnormal returns are strongly related to various measures of agency costs. However, no evidence suggests strong overperformance (underperformance) of companies that split (combine) the roles in the post-event period. The third line uses event study methodology to examine the market reaction on the changing of CEO duality. Moyer, Rao and Baliga [2002] consider the announcement effects of changes in duality status, accounting measures of operating performance for firms that have changed their duality structure, and long-term measures of performance for firms that have had a consistent history of a duality structure. Their results suggest that: (1) the market is indifferent to changes in a firm's duality status; (2) there is little evidence of operating performance changes around changes in duality status; and (3) there is only weak evidence that duality status affects long-term performance. Empirical evidence also indicates that the sensitivity of CEO duality on the firm performance is associated with the board structure and a firm's operation environment. Yu [2009] suggests that year difference for the impact of CEO duality on firm's performance. Through a longitude study of all Chinese public listed firms except finance industry from 2001 to 2003, she finds that CEO duality is negatively related with firm

performance in 2001, the negative relation disappeared in 2002 and 2003. The negative

relation with firm performance is weaker where Board salary, board and CEO

shareholding is higher and stronger when debt level is higher.

Studies of CEO duality and voluntary disclosure indicate an insignificant association.

For example, Cheng and Courtenay [2006] find that firms with a higher proportion of

independent directors on the board are associated with higher levels of voluntary

disclosure and board size and CEO duality are not associated with voluntary disclosure.

Interestingly, this association is moderated by the board independency association. For

example, Gul and Leung [2004] examine the linkages between CEO duality, board

independency, and voluntary corporate disclosures and finds that CEO duality is

negatively associated with levels of voluntary corporate disclosures. However, the

negative association is weaker for firms with higher board independency. Ho and Wong

[2001] examine the association between corporate governance attributes (board

independency, the existence of a voluntary audit committee, CEO duality, and the

percentage of family members on the board and finds that the existence of an audit

committee and board independency are significantly and positively related to the extent

of voluntary disclosure, while the percentage of family members on the board is

negatively related to the extent of voluntary disclosure.

As a summary, due to the insignificant association between CEO duality and

voluntary disclosure level, this study does not specifically examine their impact on firms'

decision to stop quarterly earnings guidance.

c. Board Size

Jensen [1993] and Lipton and Lorsch [1992] suggest that large boards can be less effective than small boards. The idea is that when boards become too big, agency problems (such as director free-riding) increase within the board, thus the board becomes more symbolic and less a part of the management process. Yermack [1996] tests this view empirically and finds its support. In particular, he examines the relationship between Tobin's Q and board size and find that a significant negative relationship. Eisenberg et al [1998] also document a similar pattern for small and midsize Finnish firms and find that board size and firm value are negatively correlated. Another measure is through the market view. Gertner and Kaplan [1996] examine the boards of a sample of reverse-leveraged buyouts and find that boards tend to be smaller than in otherwise similar firms. Wu [2000] also finds that board size decreased on average during 1991-1995 due to the pressure from active investors such as CalPERS. As a conclusion, market participants also think that small boars do a better job of monitoring management than do large boards. Despite the prevailing evidence for smaller boards, it is surprising seeing that large boards are still popular and one question arises why the market permit them to exist. Again, due to limited studies of board size and voluntary disclosure level and insignificant association presented in the above studies, this dissertation does not study the role of board size on firm's decision to stop quarterly earnings guidance.

2. Ownership Structure

a. Institution Ownership

The theoretical paper by Diamond and Verrecchia [1991] and Kim and Verrecchia[1994] propose a positive association between disclosure and institutional investors. Healy et al [1999] find that increases in disclosure are associated with increases

in institutional ownership. Bushee and Noe [2001] confirm this association, but find that increases in "transient" institution investors (institutions that trade aggressively) are associated with increases in stock price volatility. Assuming that increases in stock price volatility are costly, this finding is consistent with the intuition that partial disclosure is optimal, and that too much disclosure can be as costly as too little disclosure. Tasker [1998] finds that firms with greater analyst following and greater institutional ownership are less likely to have conference calls, and Bushee et al [2001] find that firms with greater analyst following and greater institutional ownership are less likely to have conference calls that provide open access to all investors. This evidence is consistent with the intuition that informed investors prefer less disclosure, but is also consistent with the notion that analysts and institutions produce information, and reduce information asymmetry and the need for conference calls. In addition, Eng and Mak [2003] show that ownership structure (managerial ownership, blockholder ownership and government ownership) affect disclosure. Specifically, they find that lower managerial ownership and significant government ownership are associated with increased disclosure. However, blockholder ownership is not related to disclosure.

b. Types of Institution Ownership

Prior literature (Bushee [2000]) indicates that different institutions have different long-term and short-term interests and institutions can be classified into three groups as transient institutions, quasi-indexer institutions and dedicated institutions based on investment horizon, information gathering and governance activities.

Transient institutions (trade aggressively based on short-term trading strategies in diversified portfolios) invest more heavily in firms with higher disclosure rankings and respond their holdings in response to changes in disclosure rankings. Banks, mutual funds and investment companies are transient institutions and stock liquidity is an important feature that attracts them. To the extent that a company's disclosure decreases the price that traders pay for immediacy, transient institutions may leave firms that reduced disclosures. Quasi-indexer institutions (holding large, diversified portfolios and trade very infrequently) also invest more heavily in firms with higher disclosure rankings. However, they tend to sell their holdings in firms that experience decreases in disclosure rankings but do not immediately increase holdings in response to disclosure rating improvements. Dedicated institutions (large, stable holdings in a small number of firms and trade infrequently) show no sensitivity to disclosure rating levels or changes, suggesting that corporate disclosure practices are not a significant factor affecting these institutions' investment decisions. Pension funds, university funds and endowment are generally freer from conflicts of interest and corporate pressure than other institutional shareholders and they are known to be aggressive shareholder activists[16]. In terms of information gathering, dedicated institutions are indifferent to firms' disclosure practice or may even prefer firms with fewer public disclosures, since they can monitor firms by serving on the board.

Beyond the different disclosure sensitivity for transient, quasi-index and dedicated institutions, different holding preferences among three types of institutions also show that dedicated institutions might advocate firms to focus on the long run. On the contrary,

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[16] Pension funds can alien together to have the shareholders proposals, in which they request from altering the structure of board governance or management incentives to the removal of takeover defenses.

firms with a higher transient institutional ownership are less likely to invest long term

investments, such as R& Ds. For example, Bushee [1998] documents that myopic R&D

spending is more pronounced in firms that are held by transient institutional investors.

Therefore, if the main stated reason for stopping quarterly earnings guidance is to focus

on the long-term performance, the stopper firms are welcomed by the quasi-index and

dedicated institutions.

3. CEOs Compensations

The managerial incentives and stock compensation hypothesis[17] suggests that

managers issue forecasts for reasons that are consistent with their own self-interests or

incentives instead of shareholders' interests. This impact on CEOs compensation takes

two stages, the first stage when the CEOs compensation is determined, such as the

exercise price of stock options[18], and the second stage after CEOs compensation is

determined. The argument for CEOs equity-based compensation on the second stage

shows that the management will disclose both good and bad news. When the

management has private good news, and they are interested in trading their stock

holdings, they have incentives to disclose private information to meet restrictions

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[17] Prior literature (Ke Petroni and Safieddine [1999] and Shin [2005]) has shown that institutional ownership and CEO compensation are closed related. In particular, higher institution ownership, especially long-horizon institution ownership, more weight is put on equity based CEO's compensation. However, higher short-horizon institutional ownership, more weight on CEO cash compensation since mutual funds do not like the earnings surprises. Institutional ownership can affect CEO compensation by the level of compensation and the pay-performance sensitivity. It is also argued that institutions can directly monitor the firm by delegating board members instead of using CEO compensation.

[18] The argument for CEO shares for the first stage is suggested by Aboody and Kasznik [2000]. They show that firms delay disclosure of good news and accelerate the release of bad news prior to stock option award periods, consistent with managers making disclosure decisions to increase stock-based compensation. Specifically, they report that managers issue bad-news earnings forecasts around stock option award periods to temporarily depress stock prices and take advantage of a lower strike price on managers' option grants. However, they also argue that this game can not last for long period since investors will recognize it.

imposed by insider trading rules and to increase liquidity of the firm's stock and to correct any perceived undervaluation (relative to their own information set) prior to the expiration of stock option awards.

Most CEOs compensation studies examine the earnings forecast behavior with the composition of the CEOs compensation and with the nature of the news. For example, Aboody and Kasznik [2000]'s study shows that firms delay disclosure of good news and accelerate the release of bad news prior to stock option award periods, consistent with managers making disclosure decisions to increase stock-based compensation. Miller and Piotroski [2000]'s empirical study shows that CEOs with a higher level of the stock options with respect to total shares outstanding are more likely to forecast. However, their study does not disentangle the earnings forecasts or other forms of forecasts. Therefore, their study does not specifically document the association between earnings forecast and the CEOs compensation. When the news is good, management will be in favor of forecast earnings to boost the share price in order to reap the stock options. Nagar, et al. [2003] argues that managers with greater levels of equity-based compensation issue more frequent forecasts (measure both the annual and quarterly forecast of earnings, sales and other qualitative information and the AIMR ratings for disclosure) to avoid equity mispricing that could adversely impact their wealth. Consistent with their hypothesis, they find that the frequency of management earnings forecasts is positively related to the proportion of CEOs compensation affected by stock price as well as the absolute value of shares held by that individual.

One study by Gong, Feng and Li [2007] specifically examines the association between CEOs compensation and quarterly earnings guidance. In particular, they

examine whether corporate boards consider the quality of management earnings guidance when setting CEOs incentive compensation. After controlling for firm performance and the incidence of missing analysts' earnings forecasts, they find a significant reduction in cash bonuses for CEOs when CEOs issue optimistic earnings forecasts, and the magnitude of bonus reduction increases with the extent of optimism in management earnings forecasts. In addition, they also find that the bonus reduction associated with forecast optimism is larger for firms exposed to higher litigation risk, firms held by more short-horizon shareholders, and firms having more complex business operations. Gong et al' study [2007] implies that boards utilize bonus contracts to penalize poor quality management earnings guidance. Moreover, shareholder costs associated with poor quality earnings guidance and direct monitoring costs potentially influence boards' deliberation process in setting CEO cash bonuses.

IV. CHAPTER SUMMARY

As stated in the above paragraphs, prior literature of corporate governance examines its role in a firm's performance and a firm's reporting process. Most of them study heavily on the first role with less attention on the second role. A fundamental assumption is that both monitoring roles do not conflict to each other. Ideally, a stronger corporate governance can both monitor firm performance and firm financial reporting, proxied by board independence, splitting role of CEO duality, smaller board size, higher institutional ownership, especially higher dedicated institutional ownership and higher proportion of equity based CEOs compensation. However, no previous study has specifically designed to tackle this question as suggested by the managerial myopia argument that, when the

board's monitoring role on firm performance and on firm financial reporting conflicts,

due to the fact that frequent quarterly earnings guidance results in the sacrifice of firm's

long term investment to serve short-term goals such as meeting/beating analyst forecasts.

Therefore, this dissertation aims to fill this gap to examine whether sound corporate

governance (board independency, institutional ownership, type of institutional ownership

and CEO compensation) can explain a firm's decision to stop quarterly earnings guidance

when managerial myopia is the main reason for the stoppage.

CHAPTER 3 HYPOTHESIS

This chapter develops three sets of hypothesis on quarterly earnings guidance discontinuity and restart. The first set of hypothesis examines the association between corporate governance and the decision to stop, measured as board independence (H1), institutional ownership (H2), types of institution ownership (H3), and CEOs compensation (H4). The second set of hypothesis investigates the impact of the stop decision on a firm's long term investments, proxied by R & D expenditure and capital expenditure (H5). Finally, the third set of hypothesis examines the reasons for a firm to restart quarterly earnings guidance, testing firm performance hypothesis (H6) and earnings expectation adjustment hypothesis (H7).

I. HYPOTHESIS ON THE STOPPING

Corporate governance is the set of processes, customs, policies, laws and institutions affecting the way a corporation is directed, administered or controlled. In prior studies, corporate governance has multiple aspects, including internal mechanisms such as board characteristics, CEOs compensation, institutional ownership and external mechanism such as legal frameworks with different provisions. This study only focuses on three aspects of internal mechanism of corporate governance, as board independence, institutional ownership and CEOs compensation. With respect to the institutional ownership, I development hypothesis on types of institutional ownership as dedicated institution, quasi-index institution and transient institution, based on Bushee [1998] classification.

1. Board Characteristics

Most previous studies (Fama [1980], Fama and Jensen [1983], Kaplan and Reishus [1990] and Farrell and Whidbee [2003]) emphasize on the monitoring role of board directors due to their incentives to build reputation as expert monitors. Therefore, much of the research has focused on the association between the board independence and the corporate performance (MacAvoey et al [1983], Hermalin and Weishbach [1991], Mehran [1995], Klein [1998], and Bhagat and Black [2000]). However, the monitoring power of the board is not only on a firm's performance, but also on a firm's financial reporting. Actually, an active role for independent directors is to monitor a firm's voluntary disclosure policy to improve corporate transparency. Owing to their fiduciary duty toward shareholders, directors, especially independent directors, have a responsibility to ensure greater transparency when it is in the shareholders' interests. One aspect of the corporate transparency is to provide voluntary disclosure. Quarterly earnings guidance, as voluntary disclosure, can reduce the information asymmetry between the inside managers and the outside investors. Therefore, a firm with a higher proportion of independent directors in the board is more likely to initiating earnings guidance to improve transparency in reporting and once it starts this practice, it is less likely to discontinue.

Surprisingly, despite the important monitoring role of a board on a firm's financial reporting, little evidence has been gathered to test the association between board independence and a firm's forecast behavior, especially the earnings forecast behavior with the exception of Ajinkya, Bhojraj and Sengupta [2004] , Karamanou and Vefeas [2005] and Chan, Faff, Mather and Ramsay [2007]. Their three studies all document that

the firms with more outside directors are more likely to release their quarterly earnings figures early and are inclined to forecast more frequently and their forecasts tend to be more specific, accurate and less optimistically biased. One limitation of their studies is to use annual forecasts as the proxy of management forecast behavior instead of quarterly earnings forecasts. Given the difference nature of quarterly and annual earnings guidance in terms of forecast frequency, managerial focus and analyst reactions, their studies did not provide empirical evidence of the association between board independence and quarterly earnings guidance initiation, frequency, specificity, accuracy and optimism. Second, this study examines specifically a phenomenon that firms discontinue quarterly earnings guidance, not initialing quarterly earnings guidance. Therefore, the first hypothesis of board independence on quarterly earnings guidance discontinuity is a null hypothesis:

> *H1: There is no association between board independence and a firm's decision to stop*
> *quarterly earnings guidance.*

However, based on the findings in Karamanou et al [2005] and Ajinkya et al [2004] that board independence is positively associated with corporate financial reporting transparency, improved by providing quarterly earnings guidance, I should hypothesize that firms with more independent directors are less likely to discontinue the quarterly earnings guidance since its discontinuity leads to a lower level of corporate transparency. Hence, we should observe a negative association between board independence and the likelihood of stopping quarterly earnings guidance. Therefore, alternative H1a is

> *H1a: Firms are less likely to stop quarterly earnings guidance when their boards of*
> *directors are more independent than that of the MAINTAINERS firms.*

One limitation of Karamanou et al [2005], Ajinkya et al [2004] and Chan et al [2007]'s studies is to assume that the board's monitoring role to the management on a firm's performance does not conflict with its role on a firm's corporate reporting policy, especially on its voluntary disclosure policy. However, Cheng et al.[2005] and Bhojraj and Libby [2005] find that both mandatory and voluntary disclosure frequency have an adverse impact on a firm's long term investment patterns, a term called managerial myopia, which leads to the long term poorer performance of frequent-forecast-firms than occasional guiders.

Beyond the research findings, firms that discontinue quarterly earnings guidance often cite the following logic: the pressure of meeting/exceeding quarterly earnings guidance or analyst forecasts based on earnings guidance is so higher for the management to reach that they sacrifice the long-term investments to meet/beat analyst forecasts, thus to focus on the short-term performance. For example, Coca Cola and Scientific Games Inc. both indicates that their decisions are supported by the board of directors.

" Following a series of discussions with our Board of Directors over the past year, our management team has established a policy of not providing quarterly or annual earnings guidance!-we believe that establishing short-term guidance prevents a more meaningful focus on the strategic initiatives that a Company is taking to build its business and succeed over the long-run!-Our share owners are best served by this because we should not run our business based on short-term's expectations. We are managing this business for the long-term.!" (Coca cola, press release, 12/13/2002)

"Following the recommendation of our board of directors, our management team will implement this policy to highlight the benefits of our strategy over the long term to employees and shareholders. The provision of revenue and earnings guidance encourages a short-term outlook which, in our view, is not in the best interests of our company or our shareholders." (Scientific Games, earnings release, 2/26/2004).

In addition, Committee for Economic Development calls of stopping quarterly earnings guidance by stating that

> "Quarterly guidance is at best a waste of resources and, more likely, a self-fulfilling exercise that attracts short-term traders."

Therefore, if the monitoring role of directors is to encourage the management to focus on long term goals instead on short term goals, and if quarterly earnings forecasts lead to a decline of a firm's future long-term performance due to focusing on short-term goals, we should find a positive association between board independence and the stop decision. Therefore, the alternative H1b is as follows:

> H1b: Firms are more likely to stop quarterly earnings guidance when their boards of directors are more independent than that of the MAINTAINERS firms.

To test this H1, I use the percentage of outside directors in the board (OUTPCTG) of a firm in the pre-stop event period as a proxy of board independence. If the association of the stop decision and the board independence is positive, the board of directors concerns the potential conflicts between quarterly earnings guidance and a firm's long-term performance; whereas if the association is negative, the board of the directors concerns less of the conflicts and focuses more on the transparency in corporate reporting.

2. Ownership Structure

a) Institution Ownership

Fund managers at financial institutions, such as banks, insurance companies, mutual funds, pension funds, university endowments, and other professional investment services, handle about half of the stock holdings of U.S. companies. Institutional investors are sensitive to corporate disclosure practices for many reasons. First, these managers have a

fiduciary responsibility for the fund that they manage and to the investors whom they represent. To fulfill these responsibilities, fund managers need to choose their stocks prudently and monitor the performance of the companies continuously. Institutions require information, both as a basis for investment decisions and to satisfy standards of fiduciary responsibility.[19] Fiduciaries have cited use of analyst reports as evidence of care and prudence. Additional to the analyst reports as the information source for institutions, corporate disclosures provide fund managers with low-cost means of monitoring (Bushee and Noe [2000]). Second, Healy, Hutton, and Palepu [1999] argue that, since greater disclosure reduces the information asymmetry between the firm and investors, between informed and uninformed traders and increases market depth, it also lessens price impacts of trades by reducing both bid-ask spreads and the amount of information potentially revealed by large trades, therefore, when institutions tend to invest more heavily in firms with greater average trading volumes, they are attracted to firms with more informative disclosure practices if such disclosure reduces the price impact of trade. Third, institutions could be sensitive to corporate disclosure practices if disclosure influences the potential for profitable trading opportunities. If the sophisticated investors have superior ability to interpret the implications of public signals than ordinary investors, greater disclosure could enhance profit opportunities. However, this effect of disclosure on the profit opportunities of an institution depends on its information-gathering and processing capabilities. This aspect is particular interesting due to the pass of Reg. FD which prohibits the selective disclosure. Therefore, institutions with superior capabilities of information gathering and processing are more

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[19]If they are sued by beneficiaries for poor investment performance, fiduciaries are held to a "prudent person" standard, which is to exercise the care and judgment a person of ordinary prudence and intelligence would exercise in dealing with his or her own property, under the circumstances existing at the time.

attracted to the firms with greater public disclosures. Finally, a corporate disclosure practice is important to institutions if they rely on public disclosure for corporate governance activities. Thus, institutions that are active in corporate governance and/or do not have the resources to engage in private information collection will be likely prefer firms with greater disclosure.

Empirical studies also find a positive association between disclosure level and institutional ownership. For example, Healy, Hutton and Palepu [1999] and Bushee and Noe [2000], increased disclosure can attract institutional investors; once attracted, these investors are more likely to prompt the management to continue strong disclosure policies. Eames [1995] argued that institutions need to justify trading behavior due to their fiduciary responsibilities, compensation based on short-term portfolio performance compared with indices, and the difficulty of analyzing hundreds or thousands of stocks held in their portfolios. However, both Healy et al [1999] and Bushee et al [2000] focused on the overall analyst ratings, rather than on management earnings forecasts. Ajinkya et al's study [2005] uses annual earnings forecasts and finds that firms with greater institutional ownership are more likely to issue a forecast and are inclined to forecast more frequently. Institutional investors' focus on quarterly earnings surprises gives management incentive to ensure that near-term expectations are managed and met. Thus, managers of firms with higher institutional ownership are likely to face greater pressure not to disappoint, and are less likely to stop quarterly earnings guidance. If quarterly earnings guidance improves a firm's disclosure level and its discontinuity deteriorates this disclosure level, I should observe a negative association between the institutional ownership and the decision to stop. Therefore, I hypothesize:

H2: Firms are more likely to stop quarterly earnings guidance when their institutional ownerships are less than that of MAINTAINERS firms, proxyed by the institutional share percentage (INSTPCTG).

To test H2, I use the average of institutional ownership percentage of four quarters before the stop event period.

b) Types of Institution Ownership

However, the association between the quarterly earnings guidance discontinuity decision and the institutional ownership depends on the types of the institutions as transit institution, quasi-index institution and dedicate institution, suggested by Bushee [1998, 2000][20]. Transient institutions are characterized as having high levels of portfolio turnover and diversification, which reflect the fact that they tend to be short-term-focused investors with little interest in long-term capital appreciation or dividends (Porter [1992]). Because they focus on attaining short-term returns for their positions in a firm's stock, high liquidity is important for them so that the price impact of their trading does not erode any potential trading gains, therefore, they are expected to be attracted to firms with more informative disclosure practices and may leave firms that reduced disclosures, to the extent that company disclosure decreases the price that traders pay for immediacy. A recent survey work by Graham, Harvey, and Rajgopal [2004] indicates that managers believe that transit investors set their firms' stock prices and that the relative performance evaluation of fund manager promotes a focus on near-term earnings performance by these

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[20] Detail classification of transit, quasi-index and dedicated institution can be referred to chapter 4 under the literature review part on types of institutions. Transient institutions are those trade aggressively based on short-term trading strategies in diversified portfolios. Banks, mutual funds and investment companies belongs to the transient institutions and stock liquidity is an important feature that attracts the transient institutions. Quasi-indexer institutions hold large, diversified portfolios and trade very infrequently and their information mainly based on public information. Dedicated institutions are large, stable holdings in a small number of firms and trade infrequently. Due to their long holding attitude and large, stable holdings, they show no sensitivity to disclosure rating levels or changes.

institutions. Since quarterly earnings guidance provides inside information of a firm's short-term performance, a firm with a higher level of transient institution ownership is less likely to stop this forecast.

Quasi-indexer institutions are characterized as having low portfolio turnover and highly diversified holdings, which suggest a passive, buy-and-hold strategy of investing (Porter [1992]). Since quasi-indexers lack the resources to actively manage their portfolios, corporate disclosure are often a cost-effective method of monitoring firm performance, which indicates that they should prefer firms with more disclosure. However, compared to transit institutions, they are not so sensitive to the change of disclosure levels since they tend to sell their holdings in firms that experience decreases in disclosure rankings but do not immediately increase holdings in response to disclosure rating improvements. Since quarterly earnings guidance provides additional information of a firm, a firm with a higher level of quasi-indexers ownership is less likely to stop.

Dedicated institutions are characterized as taking large stakes in firms and having low portfolio turnover, both are consistent with a relationship approach to investing[21]. Due to their large, stable ownership positions, they often have better access to private information about their portfolio firms (Porter [1992]). Therefore, public disclosure is less important in monitoring firms and is potentially costly if it reveals proprietary information. Since they are not frequent traders, the liquidity benefits of disclosure are

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[21]   Many public pension funds index a large portion of their portfolios precludes selling underperformers. For example, TIAA-CREF indexes 80% of its domestic equity portfolio. The level of indexing in public pension funds is reflected by their very low turnover. CalPERS has annual turnover in its equity holdings of approximately 10%; and the New York Retirement funds have annual turnover of about 7% of total equity. The constraints on selling under-performers imposed by the indexing strategy have provided an important motivation for shareholder activism by public pension funds.

likely to be less important to them than other types of institutions, therefore, they show no sensitivity to disclosure rating levels or changes, either they can express their voice through their delegates on the board, or they can use their own in-house analysts to analyze information and more likely, they prefer firms with less disclosure. Thus, a firm with a higher level of dedicated institutional ownership is more likely to stop quarterly earnings guidance.[22]

Based on Bushee's argument, before the firm makes the decision to stop quarterly earnings guidance, they need to weight the subsequent potential changes of institutional ownership level caused by the disclosure decision. If the firm has a higher level of dedicate institutions prior to the stop event, they are more likely to stop since the dedicate institution investors might not change their long-term holdings based on the corporate disclosure. On the contrary, if the firms have a higher proportion of the transient institutions and quasi-index institutions, they are less likely to stop for the fear of losing them.

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[22] Pension funds are dedicated institutions. The largest public pensions funds in the U.S are CALPERS, the New York City Employees' Retirement System, and the State of Wisconsin Investment Board have the policy to vote. Institutions use different channels to monitor the management, through voting shares as the right to vote as attached to voting shares is a basic measure of share ownership and is particular important or one to one meetings: A company will usually arrange to meet with its largest institutional investors on a one-to-one basis during the course of the year. The meetings tend to be at the highest level and usually involve individual key members of the board in a meeting once, or may be twice, a week. Their "target" institutional investor audience would include large shareholders (saythetop30) and brokers' analysts (saythetop10) or others. In addition, they would tend to phone an institutional investor if they hadn't seen them in the last year to eighteen months. The issues which are most discussed at these meetings between firms and their large institutional investors are areas of the firm's strategy and how the firm is planning to achieve its objectives, whether objectives are being met, the quality of the management, etc. A case of dedicated institution participate in the corporate governance is XEROX. Xerox Corporation has shown poor performance in the recent years and CALPERS (the Californian Public Employees' Retirement System) is one of the largest and most influential pension funds. It finds that Xerox retained a board with same board members when experiencing the financial problems with duality role of Chairman/CEO. So it includes Xerox into a corporate governance focus list of poorly performing companies, and asks 3 more independent directors should be on the board, and believe that the audit, remuneration and nomination committees should be composed totally independent directors.

Beyond the different disclosure sensitivity for transient, quasi-index and dedicated institutions, different holding preferences among three types of institutions also show that dedicated institutions might advocate firms to focus on the long run. On the contrary, firms with a higher level of transient institutional ownership and quasi-indexers are less likely to invest long term investments, such as R& Ds. For example, Bushee [1998] documents that myopic R&D spending is more pronounced in firms that are held by transient and quasi-index institutional investors. Bushee's finding is consistent with the actions from pension funds. On Aspen Institute's report on "Break short-termism" cycle, pension funds like the New York State Common Retirement Fund, also support the initiative to discard the quarterly earnings guidance. In addition, the concentrated ownership of the dedicated institutions such as pension funds and university funds and endowments makes monitoring management a critical activity. Based on Bushee [1998]'s classification of transient, quasi-index and dedicated institutions, I would argue that a firm with a larger ownership by dedicated institutions is more likely to stop quarterly earnings guidance. On the other hand, firms with larger transient and quasi-index institutional ownership are less likely to stop quarterly earnings guidance since they need to meet the short-term goals to attract them.

> H3: Firms are more likely to stop when their dedicate institutions
> (transient/quasi-index institutions) have higher ownerships than that of
> MAINTAINERS firms

To test H3, I use the measure of institutional share ownership percentage. The data of three different institutions is kindly provided by Brian Bushee from Wharton Business School, detail of his data can be obtained from his papers [1998 and 2000]. Since institution ownership can be classified as sole voting share, shared voting share and no

voting share, I use the ratio of sole voting shares held by the institution and the total

shares outstanding[23]. This measure is averaged among four quarters before the stop event

period. The levels of quasi-index institutional ownership and dedicate institutional

ownership are tested. Since the average transient institutional ownership is 1%, I did not

test the ownership by transient institutions. I also use a dummy variable DEDDM, which

takes 1 if dedicate institutional ownership is larger than 50% of the total institutional

ownership, 0 otherwise[24]

3. CEOs Compensation

The theory of managerial incentives and stock compensation suggests that managers

issue forecasts for reasons that are consistent with their own self-interests or incentives

instead of shareholders' interests. CEO compensation has two components, cash and cash

bonus based on accounting performance and equity compensation based on market

performance of a stock. The incentive of CEO compensation of earnings guidance

depends on the proportion of equity vs proportion of cash and bonus.

If CEO compensation relies heavily on equity, the management is more likely to

issue forecasts despite the nature of the news (good or bad). When the news is good,

management will be in favor of forecast earnings to boost the share price in order to reap

the stock options. Miller and Piotroski [2000] document that CEOs with a higher level of

the stock options in their compensations are more likely to forecast. Nagar, et al. [2003]

argues that managers with greater levels of equity-based compensation issue more

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[23] Untabulent results shows that percentage of sum of sole voting shares and the shared voting shares held by the institution and percentage of total amount of shares held by the institution have the similar results.
[24] In the data collection, some institutions are not identified neither as transient, quasi-index or dedicate institution, I title them other institution. But the summary statistics shows that their ownership is insignificant compared to dedicate institution or quasi-index institution.

frequent forecasts(measure both the annual and quarterly forecast of earnings, sales and other qualitative information and the AIMR ratings for disclosure) to avoid equity mispricing that could adversely impact their wealth. Consistent with their hypothesis, they find that the frequency of management earnings forecasts is positively related to the proportion of CEO compensation affected by stock price as well as the absolute value of shares held by that individual. In the case of bad earnings performance, if the equity proportion of CEO compensation is higher, the management tends to issue future good news forecast on the earnings announcement date to explain away the bad performance and shift the investors' attentions to the future period instead of on the current period. Cohen [2002] argues that the management still has the discretion of future expected earnings, therefore, in order to maximize the value of equity based compensation, the management is more likely to issue future earnings forecast to shift the investor's attention. When the news is bad, the managers with higher level of equity compensation tend to release the bad news forecast before the earnings announcement date to adjust the market expectations down so to avoid the huge price deduction on the earnings announcement that will adversely affect their equity value. Second, due to litigation risk, the management is also likely to disclose news since litigation risk will reduce their ownership on the stocks. In addition, investors with rational expectation respond to non-disclosure as "worst" news. Furthermore, with a higher equity level in compensation, the managers care more to build credible relationship with analysts since their wealth ties tightly with the stock performance in the future. Sending bad news forecast early also can help build reputation for credibility in the information disclosure.

If the CEO compensation is heavily based on cash and cash bonus, CEOs care less about voluntary disclosure of the future performance. Ideally, when the CEO compensation is a flat wage, management is unlikely to induce disclosure, since managers derive private benefits from control. In addition, non-disclosure increases the owners' cost of intervention and allows managers to continue extracting rents from their employment. In order to reduce the economic rent, board of directors design CEOs compensation plans so that the cash bonus usually is based on firm performance. Graham, Harvey and Rajgopal [2005] survey evidence finds that companies often have internal earnings targets (for the purpose of determining whether the executive earns a bonus) that exceed the external consensus target to set the bonus payout. Bonuses are a function of an internal "stretch goal," which exceeds the internal "budget EPS," which in turn exceeds the analyst consensus estimates. Hence, meeting the external earnings target (such as analyst forecasts) does not guarantee a bonus payout. However, in the case of poor performance with the benchmark of external earnings target, management is at the risk of cash bonus reduction, a signal of CEO's inability to manage the firm. Second, when the management issue earnings guidance, they need to face the possibility of missing their own earnings guidance when the market or economic situation changes. Failing to miss their own forecasts sends a signal of their incapability to manage the firm and anticipate the unpredictable uncertainties. Gong, Feng and Li [2007] shows that corporate boards consider the quality of management earnings guidance when setting CEO incentive compensation and penalize CEOs with poor earnings guidance prediction, especially when the management forecast is optimistic of previous earnings guidance. They find a significant reduction in cash bonuses for CEOs when they issue optimistic earnings

forecasts, and the magnitude of bonus reduction increases with the extent of optimism in management earnings forecasts. Therefore, in a situation of bad firm performance that leads to a huge reduction in cash and cash bonus, and additional reduction based on the possibility of inaccurate forecast due to uncertainties in the future, firms with CEOs with higher proportion of cash bonus are more likely to stop quarterly earnings guidance to avoid further bonus loss in the future. Hence Hypothesis 4 is:

> *H4: Firms are more likely to stop quarterly earnings guidance when the CEO compensations are based more on cash and cash bonus, than that of the MAINTAINERS firms.*

I use the cash proportion of the CEOs compensation (CASHPCT) to proxy the management's incentive to provide timely forecast information to the investors. I expect a positive association between the cash percentage of a CEOs compensation plan and the decision to stop.

II. HYPOTHESIS ON THE IMPACT OF STOPPING

What is the impact of stopping quarterly earnings guidance on a firm's long-term investment proxied by Research and Development expense and capital expenditures?[25] Research and development expenditure is crucial for the growth of a firm, however, the long-term time lag between the investment decision and the associated returns for Research and Development expenditures creates a conflict between short-term goals and long term goals, a term called managerial myopia. According to Stein [1989], managerial

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[25] R & D expense is used as a proxy for long term investment due to three factors: First, theoretical work on corporate long-term investment by Stein [1989] explicitly suggests the use of Research and Development expense to measure investment in long-term projects. Second, the prior empirical work of Barber [1991], Dechow and Sloan [1991] and Bushee [1998] use of Research and Development expenses to examine corporate investment in long-term projects. Third, the long-term time lag between the investment decision and the associated returns for Research and Development expenditures makes it a good proxy for investment in long-term projects.

myopia as the desire to achieve a high current stock price by inflating current earnings at the expense of longer-term cash flows (or earnings). His theoretical study shows that, in the face of a rational stock market, managers in an effort to influence the market's current assessment of the firm's value would sacrifice total cash flows to boost near-term income.

Under U.S. GAAP, R&D expense is immediately expensed. According to FAS 2, issued in 1974, all R & D costs encompassed by this statement shall be charged to expense when incurred[26]. The total R & D costs charged to expense should be disclosed in the financial statements in each period for which an income statement is prepared. Also, under FASB Interpretation No. 4, Applicability of FASB Statement No. 2 to Business Combinations Accounted for by the Purchase Method, in-process R & D costs should be written off to expense on the day they are acquired. The Board considered such factors as uncertainty of future benefits of individual R & D projects and lack of causal relationship between expenditures and benefits[27].

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[26] These costs include: (1) costs of materials, equipment and facilities that have no alternative future uses; (2) salaries, wages and other related costs of personnel engaged in R & D activities; (3) purchased intangibles that have no alternative future uses; (4) contract services; and (5) a reasonable allocation of indirect costs, except for general and administrative costs, which must be clearly related to be included and expensed.

[27] The Board considered an accounting method of selective capitalization, which is to capitalize R & D costs when incurred only if specific conditions are fulfilled and to charge to expense all other R & D costs. This method, requiring establishment of conditions that must be fulfilled before R & D costs are capitalized, has been practiced in many countries. For example, capitalization of selected R & D costs has been allowed under certain conditions in Japan and France, while capitalization of development costs has been practiced in the United Kingdom is required under international accounting standards. The selective capitalization method requires prerequisite conditions that are based on such factors as technological feasibility, marketability and usefulness. In US, Development refers to the translation of research findings into plans or designs for new products or process. Most of software companies do not capitalize development costs due to its immateriality, such as Microsoft, Netscape and Symantec. However, Lotus in 1994 charged 159 million of R & D costs to operations and capitalized 36 million of development costs. The amortization of capitalized software development costs is on a a straight-basis over the specific product's economic life, generally three years.

The requirement to expense R & D expenditures when it incurs make it vulnerable to cuts by managers burdened by pressure to achieve short-term earnings targets although recent GAAP has allowed partial capitalization of development cost for software industry. Managers have incentives to reduce R & D investment in order to avoid earnings disappointments that would trigger a temporary misevaluation of the firm's stock price. The misevaluation of the stock price is harmful for the management due to the compensation plan, the near-term equity funding requirements, the potential takeover threat due to temporary undervaluation. Therefore, firms with pressures to boost earnings tend to under-invest in R & D in the short term. For example, a major pharmaceutical company executive recently confided in a private interview that the past ten to fifteen years, his firm had an explicit policy linking approval of R & D expenditures with the projected success in hitting the target rate of return for the year. If the return projected to be greater than the budgeted, more would be spent on R & D, if it is expected to be less than planned, it should be lowered. Empirical studies also find that firms underperforming to the industrial competitors use R & D expenditure to boost income[28]. For example, Perry and Grinaker [1994] find a significant negative association between the unexpected R & D expenditures and the unexpected earnings. In addition, Graham, Harvey and Rajgopal [2005] survey evidence finds that 80% of the respondents reduce discretionary R & D, advertising and maintenance expenditure to beat/meet analyst forecasts. Bhojraj et al. [2005] document that using accruals or discretionary expenditures

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[28] Three mutually exclusive cases are distinguished by how the investment decisions affect the ability to report earnings greater than the income objectives. Case 1: the earnings before the R & D expenditure and target income exceed the cost of acceptable R & D investment opportunities. Case 2: The ability to report earnings greater than the income objectives depends on the R & D investment decision. Case 3: the earnings before R & D is less then the income objective. Under the case 2, most firms will change the R & D patterns to achieve income objectives due to the compensation incentives or to the takeover threat.

(such as R&D expenditure) to meet or beat analyst forecasts results in short-term positive impact on firm performance, but long-term underperformance relative to firms that do not manage earnings to meet forecasts. Houston, Lev and Tucker [2007] find that compared to the MAINTAINERS, the R& D Expenditure and Capital Expenditure of the STOPPERS are lower.

A capital expenditure is incurred when a business spends money either to buy fixed assets (purchase expenditure) or to add to the value of an existing fixed asset with a useful life that extends beyond the taxable year(improvement expenditure). Capital expenditure needs to be capitalized if the assets have future benefits; this requires the company to spread the cost of the expenditure over the useful life of the asset. If, however, the expense is one that maintains the asset at its current condition and assumes no future additional value, the cost is deducted fully as the expense in the year of the expenditure. Similar to R & D expenditure that creates the conflicts with short-term goals and long term goals, capital expenditure also are vulnerable to cut to improve the short-term earnings performance. If a firm that stops quarterly earnings has poor performance in the short-term, R& D Expenditure and capital expenditure will be reduced to boost short-term earnings. Therefore, hypothesis 5a states as follows:

H5a: For STOPPERS firms, R& D Expenditure/ capital expenditure will be lower in the post-stop period than in the prior-stop period

Since gains from R&D are realized only in the long-term, but the expense of R & D will lower the short term performance of a firm, an increasing focus on the short-term performance such as quarterly performance to meet/beat analyst forecast will inevitably sacrifice the R & D expenditure to boost short term performance. Quarterly earnings

guidance also has the short-term focus as suggested by the US corporations and

institutions. For example, Coca Cola Company stated as followings:

> *"the company hoped the move(of discontinuing quarterly earnings guidance) would focus investor attention on long-run performance and discontinuing quarterly earnings guidance would help the company focus on long-term objectives, such as expanding its business into new markets, without having to worry about meeting short-term earnings targets."*

General Electric (GE) also mentioned that short termism as a result of quarterly

earnings guidance cause it to stop quarterly earnings guidance.

> *"The relentless focus on "the number" can drive companies to engage in short termism at the expense of the company's long-term future. At the extreme, narrowly defined earnings guidance can be a catalyst for earnings management and outright fraud."*

In addition, CFA Institute, U. S. Chamber of Commerce, and the Aspen Institute

propose a discontinuity of quarterly earnings guidance to shift the management's focus

on the long term rather on the short term. This shift can be observed through the changing

level of R & D expenditure in corporations. Prior literature has established the link

between R & D expenditure and managerial myopia on short-term and argued that

increasing R & D expenditure can be viewed positively as a reduction of managerial

myopia. For example, Dechow and Sloan [1991] and Bushee [1998] have found that

R&D expenditures are negatively associated with the management myopia behavior. In

addition, Cheng et al [2005] finds research and development (R&D) expenditure is used

to proxy for the managerial myopia and ceteris paribus, dedicated guiders spend

significantly less on R&D than occasional guiders.

If the argument of US firms and institutions for a long term focus by abandoning

quarterly earnings guidance is true, we can find an increased level of R& D Expenditure

for firms that stopped quarterly earnings guidance in the post-stop period than that in the

pre-stop period since without quarterly earnings guidance, firms can focus on the

long-term investment proxied by R & D expenditures. Hence, alternative hypothesis of

the association between the quarterly earnings guidance and the R & D expenditure is:

H5b: For STOPPERS firms, R& D Expenditure/ capital expenditure will be higher in the post-stop period than that in the prior-stop period.

To test H5, I compare the levels of R&D expenditure and capital expenditure of the

STOPPERS. If STOPPERS increase R & D expenditure in the post-event period, after

controlling other factors, we can argue that the stop event does mitigate the management

myopia behavior. Otherwise, we can argue that the focus of long-term goals by

discontinuing quarterly earnings guidance is just an excuse to shift the investor's

attention away from short-term performance.

III. HYPOTHESIS ON THE DECISION TO RESTART

1. Performance Related Hypothesis

Lang and Lundholm [1993] reported that firms provided better disclosures subsequent

to good earnings and stock performance or in anticipation of improved future

performance. Miller and Piotroski [2000] documented that the frequency of voluntary

forward-looking disclosures was higher for firms with stronger, more persistent earnings

during turnaround periods. Miller [2002] finds that the frequency of voluntary disclosures

increases when firms perform well and that managers become more secretive during

challenging times. Similarly, Wasley and Wu [2006] find that firms voluntarily issue cash

flow forecasts when they have good news to impart. Chen et al. [2007] and Houston

[2007]'s studies also document that firms with poor performance are more likely to stop

earnings guidance. My hypothesis is that, when a firm's earnings performance or market performance is improved, firms are more likely to restart quarterly earnings guidance.

> *H6: Firms are more likely to restart quarterly earnings guidance when firms' operational performance and market performance are better than that of NONRESUMERS firms.*

To test this hypothesis, I predict that good performance in the past period and expectation of good performance in the future period is positively association with the decision. To test this hypothesis, I use similar approach to test the stop decision by using variables PEPS, FTEPS. PEPS as the average earnings change in the four pre-event quarters relative to their respective same-quarter-last-year values, deflated by the stock price at the end of the pre-event period. We predict that the higher this variable, the more likely the firm is to restart guidance. FTEPS measured by the change in average diluted earnings per share (split-adjusted) from the four pre-event quarters of restarting to the four post-event quarters, deflated by the stock price at the beginning of the pre-event period. If firms restart guidance because of expected good earnings performance, we expect a positive coefficient on FTEPS. The second performance indicator is market performance- RETURN. It is measured by the buy-and-hold return (compounded monthly) during the one-year period before the earnings announcement for the quarter preceding restarting, less the buy-and-hold return on the equal-weighted market index in the same period. If firms restart guidance because of good stock performance, we expect a positive coefficient on Return.

2. Earnings Expectations Management Hypothesis

Prior literature has documented that the management has the incentive to meet or beat analyst forecasts. Since mid-1990s, the result of meeting or beating analyst expectations has become the most important threshold to managers, more important than either avoiding quarterly losses or quarterly earnings decreases[29]. Incentives to meet or beat analyst forecasts arise in two factors of the benefits associated with beating/meeting analyst forecasts and the costs associated with failing to meet. First, beating/meeting analyst forecasts leads to a risk premium for a firm. Barth, Elliot and Finn [1999] find that, all else constant, firms that report continuous growth in annual earnings are priced at a premium relative to other firms. Bartov, Givoly and Hayn [2002] find that firms that meet or beat analyst expectations earn higher stock returns than these that miss the expectations, and that these returns are not affected by whether the firm achieves this by managing earnings[30] or expectations, suggesting high reward to engaging in earnings expectations management. In addition, they find that firms that meet or beat analyst expectations often report superior future operating performance. Graham, Harvey and Rajgopal [2005] survey evidence finds that an overwhelming 86.3% of participants believe that meeting benchmarks has the following benefits such as to build credibility

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[29] Graham, Harvey and Rajgopal [2005] survey finds that four performance benchmarks as earnings in the same quarter last year, previous quarter earnings, zero earnings or loss, and consensus analyst forecast earnings. Among them, the consensus analyst forecast earnings is the key metric as earnings benchmark.

[30] Real actions that firms can take to avoid missing earnings targets include: (i) postpone or eliminate hiring, R&D, advertising, or even investments (to avoid depreciation charges to earnings or other start-up charges); (ii) manage other expenses by cutting the travel budget, delaying or canceling software spending, or deferring maintenance spending; (iii) sell bond investments that are not marked-to-market and, therefore, permit the firm to book gains; (iv) securitize assets; (v) manage the funding of pension plans; (vi) convince customers to increase their order quantity towards the end of the quarter; and (vii) announce an increase in product prices in the first quarter of the coming year to stimulate demand in the fourth quarter, or cut prices in the fourth quarter and hope to make that up in higher volume.

with the capital market, to help analysts with their forecast jobs, to facilitate to maintain

or increase the firm's stock or to convey future growth prospects to investors. Second,

fail to beat/meet analyst forecasts implies bad management for a firm. Skinner and Sloan

[2002] show that the market's asymmetric reactions to earnings news--the absolute

magnitude of the price response to negative surprises significantly exceeds the price

response to positive surprises, particularly for high-growth firms. Growth firms that fail

to meet earnings benchmarks (such as analyst expectations) suffer large negative price

reactions on the earnings announcement date. The adverse impact on negative earnings

surprise is due to two scenarios: with earnings guidance or without earnings guidance.

Without guidance, the market holds that the management can find a penny to beat/meet

analyst forecast by using alternative accounting rules or to seek reduction of discretionary

R & D expenditures. In a case with guidance, the market interprets the fail to meet as the

management's inability to provide accurate forecast and suspect the ability of the

management to manage the firm. As a result, the market concludes that the firm probably

has poor future prospects and, hence, depresses the firm's stock price.[31]

Apart from the stock price considerations from the negative or positive earnings

news, the management also uses guidance to build reputation on the earnings

predictability. An important reason for giving guidance is to ease the analyst's job in

computing forecasted EPS by providing guidance to build earnings predictability instead

of leaving analysts to forecast by themselves with a higher dispersion in their forecasts.

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[31] The tone of the conference call on the earnings announcement date is dramatically different for positive
or negative earnings news. If they meet the earnings target, they can devote the conference call to the
positive aspects of the firm's future prospects. In contrast, if the company fails to meet the guided number,
the tone of the conference call becomes negative. The focus shifts to talking about why the company was
unable to meet the consensus estimate. Analysts begin to doubt the credibility of the assumptions
underlying the current earnings number and the forecast of future earnings. Such a negative environment
can cause the stock price to fall and even result in a debt-rating downgrade.

Earnings are thought to be unpredictable if they are volatile or if the firm underperforms earnings benchmarks, and unpredictability leads to low stock returns. A poor reputation for delivering transparent and reliable information can increase the information risk of a firm, also hurting stock performance. Stock market valuation, especially related to earnings predictability, causes an executive to be concerned about her company's reputation for delivering reliable earnings and disclosing transparent information. Earnings predictability can be reached by providing guidance to reduce the chance of missing analyst forecast or to smooth earnings. Graham, Harvey and Rajgopal [2005] survey finds that predictability of earnings is an over-arching concern among CFOs. The executives believe that less predictable earnings as reflected in a missed earnings target or volatile earnings command a risk premium in the market.[32]

Analyst forecasts are often used as proxies for market expectations to the future earnings. However, earlier studies investigating analyst forecast bias have generally found an optimistic bias in analyst forecasts (Francis and Philbrick [1993], Lin and McNichols [1993] and [1997], Dechow, Hutton, and Sloan [1999]). Empirical and anecdotal evidence also suggest that managers can indeed influence analysts' earnings forecasts. For example, survey evidence from Graham [2005] indicates that the primary role of voluntary disclosure from a CFO's point is to correct investors' perceptions about current or future performance, so that the stock is priced off company-provided

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[32] First, predictability of earnings makes it easier for investors to get a sense for what portion of earnings will be paid out versus reinvested. Second, the firm has no obvious interest in increasing earnings volatility. CFOs feel that speculators, short-sellers and hedge funds are the only pares that benefit from more volatile earnings and, consequently, a volatile stock price. Bumpy earnings streams undermine their trust in the company and its numbers. Executives point out that the culture of "predictability in earnings" goes deep down the organizational hierarchy. Divisional managers develop reputations as "no surprise guys" by creating cushions in their revenue and spending budgets. These dependable managers are rewarded in the firm because they delivered earnings.

information rather than "misinformation". Similarly, Ajinkya and Gift [1984] found that forecasts are issued by managers in an effort to move prevailing market expectations toward management beliefs about future earnings (based on nonpublic information), and condition on the management forecast signal, the capital market revises its expectations (and the equilibrium value of firms common shares) in an unbiased fashion- a "good news" ("bad news") forecast is associated with an upward (downward) price revision.

Recent empirical research documents systematic patterns in analyst earnings forecasts suggestive of such managerial earnings guidance, including persistent pessimism in their quarterly earnings forecasts (Matsumoto 2002), non-normal distributions of earnings deviations from consensus forecasts (Burgstahler and Eames 2004), and walk-downs in analysts' annual earnings estimates (Richardson et al. 1999, 2004). Furthermore, Soffer, Thiagarajan, and Walther [2000] find that firms use pre-announcements of earnings to manage analysts' expectations and managers are selective in the content of their disclosures and appear to receive stock price benefit from managing analysts toward beatable targets. Brown [2001] finds an overall increase in the percent of zero and positive forecast errors over time is consistent with managers taking actions to avoid negative earnings surprises (assuming the incentive to avoid negative earning surprises has increased over time). Cotter, Tuna, and Wysoski [2004] find that the switch to pessimistic forecasts appears to be concentrated around the release of management forecasts. Therefore, it is arguable that firm management has strong incentives to beat earnings targets because investors strongly penalize firms that miss these targets.

Analysts, on the other hand, also dislike the continuous pattern of failing to meet their forecasts due to two factors: if a firm's stock price co-varies with the stock prices of other firms in the same industry, analysts might find it worthwhile to let this firm's stock "look good" and beat the earnings estimates. Otherwise, they run the risk that the stock prices of other firms in the industry would fall if the firm does not meet the estimate, increasing the odds that the analyst's analysis of those other firms might look bad.

Therefore, based on empirical studies, I hypothesize that the management might restart earnings forecast to adjust the market expectation of future earnings.

> *H7: Firms are more likely to restart quarterly earnings guidance when the analyst expectations for future quarterly earnings are higher than that of NONRESUMERS firms.*

I use two proxies to test this hypothesis. First, I use the extent of the analyst forecast bias (FBIAS) before the management to restart quarterly earnings guidance. My argument is that a more optimistic bias of the analyst forecast, a higher incentive for management to engage expectations management. The second measurement is the change of the proportion of just meet/beat analyst forecast before/after the management gives quarterly earnings guidance (CMB). My argument is that higher proportion of just meet/beat analyst forecast in the post-event period compared to that in the pre-event period, higher incentive for them to engage expectation management before event period.

IV. SUMMARY OF HYPOTHESIS

As a summary, H1-H4 examines the association between corporate governance and the decision to stop quarterly earnings guidance. H5 examines the impact of the stoppage

decision on a firm's investment on capital and R & D expenditure. H6 and H7 examine the association between a firm's performance, earnings expectation management and its decision to restart quarterly earnings guidance.

H1: There is no association between board independence and a firm's decision to stop quarterly earnings guidance.

H1a: Firms are less likely to stop quarterly earnings guidance when their boards of directors are more independent than that of the MAINTAINERS firms.

H1b: Firms are more likely to stop quarterly earnings guidance when their boards of directors are more independent than that of the MAINTAINERS firms.

H2: Firms are more likely to stop quarterly earnings guidance when their institutional ownerships are less than that of NONSTOPPER firms, proxied by the institution share percentage (INSTPCTG).

H3: Firms are more likely to stop when their dedicate institutions (transient/quasi-index institutions) have higher ownerships than that of MAINTAINERS firms

H4: Firms are more likely to stop quarterly earnings guidance when the CEO compensations are more based on cash and cash bonus, than that of the MAINTAINERS firms.

H5a: For STOPPERS firms, R& D expenditure/capital expenditure will be lower in the post-stop period than in the prior-stop period

H5b: For STOPPERS firms, R& D expenditure/capital expenditure will be higher in the post-stop period than that in the prior-stop period.

H6: Firms are more likely to restart quarterly earnings guidance when firms' operational performance and market performance are better than that of NONRESUMERS firms.

H7: Firms are more likely to restart quarterly earnings guidance when the analyst expectations for future quarterly earning are higher than that of NONRESUMERS firms.

CHAPTER 4 RESEARCH DESIGN AND METHODOLOGY

I. RESEACH DESIGN

1. Industry-Year-Quarter Matched Research Design for the Stop Event

The research design in this dissertation is matched group comparison. For the stop event, I find two groups of firms as STOPPERS and MAINTAINERS. For the restart event, I find two groups of firms: RESUMERS and NONRESUMERS. I match both groups using industry-year-quarter matched method. The advantage of using industry matched sample is to control other factors that vary among industries. First, different industry has different operating features such as capital intensive, labor intensive, different level of tangible assets or intangible assets, different complexity levels and other characters. Second, argued by Field, Lowry and Shu [2005], various industries have different levels on probability of lawsuits. For example, high tech industry (biotech industry, computer industry, electronics industry and the retailing industry) (2833-36, 3570-77, 3600-74, 7371-79 8731-34) have a higher probability of lawsuits due to the growth uncertainty. Healthcare and wholesale industries are also the target of lawsuit due to the "deep pocket" theory. Regulated industries (4812-13 4833 4841 4811-99 4922-24 4931 4941 6021-23 6035-36 6141 6311 6321 6331) are required to provide operating information to regulatory bodies on a regular basis, and such information is often more detailed and timelier than quarterly earnings announcement, so that this flow of information reduces the information asymmetry with investors and hence decreases the need for voluntary forecast. The third example is the retail industry, which has lower litigation risk due to the fact that this industry usually releases monthly sales figures, which provides better and detailed information each month. Therefore, by matching

industry, I can control for the litigation risk to some extent[33]. Lastly, it is well documented (Houston, Lev and Tucker [2007] that firms' forecast behavior might be influenced by the industry practice; therefore, by control the industry factor through matching, it will improve the empirical results. Fourth, R&D expenditures vary differently among industries. Previous study, Baber [1989] finds that the industry of Computer programming, software and services has the highest ratio of spending R&D costs, represent about seventeen percent of sales. Next in the industry ranking is the drugs and pharmaceuticals industry, where R&D is about 12 percent of industry sales. Other relatively "glamorous" industries on the list include industries of Computers and electronic equipment, electronics and other electrical equipment excluding computers and communications. Another industry is industry of Transportation equipment. As a summary, matching STOPPERS and MAINTAINERS, RESUMERS and NONRESUMERS by industry can reduce the impact of industry variation on the interested dependent variables in this study. Second, I use the year-quarter matched method, based on the assumption that many of the interested variables are highly sensitive to the time frame.

Throughout the time period from 1st Quarter in 2001 to 4th Quarter in 2006, I have defined three types of quarters as "event quarter", pre-event quarter and post-event quarter. The preceding four quarters as the "pre-event" period, while the event quarter and its subsequent three quarters are labeled as the "post-event" period. "Guidance stoppers"(STOPPERS) are the firms that issue guidance for at least three out of the four pre-event quarters, but give no guidance for any of the four post-event quarters while

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[33] I also can use Roger's model of litigation risk to estimate it. However, since I already matched the industry, the untabulent results show that the impact on litigation risk on the stop decision is not significant.

"guidance maintainers" (MAINTAINERS) provide guidance for at least three out of the four quarters in both the pre- and post-event periods are termed. For example, Coco-cola announced that it will stop quarterly earnings guidance in Dec 2002, so 4 quarters before December 2002, Coco-Cola has 4 earnings guidance for pre-event period, but no earnings guidance after event quarter. The event quarter is 1st quarter in 2003. In addition, I also check the STOPPERS firms, to examine whether the STOPPERS are due to bankruptcy or merge or takeover. The STOPPERS need to continue on operation for at least 2 years.
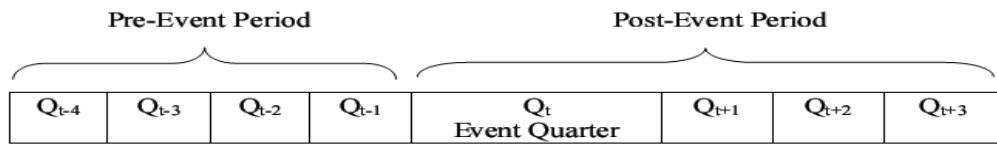
I used the first 2 digits of the SIC code to match the MAINTAINERS, at the same time, I need to match by year and quarter since many variables examined in my study are sensitive to the time period. For example, if one STOPPERS firm X is in business service industry with a SIC code of 73, I identify firm Y is a maintainer in the same industry of SIC code 73. If Firm X's year quarter is 20052Q, then I use 20052Q as the event quarter for Firm Y. Before allocating the event quarter for Firm Y, I also need to check that firm Y has at least 3 quarters forecast in the pre-event period and at least 3 quarters forecasts in the post-event period.

2. Industry-Year-Quarter Matched Research Design for the Restart Event

Same research design as industry-year-quarter matched is applied for the restart event. The data selection procedure for the RESUMERS and NONRESUMERS are similar to the STOPPERS and MAINTAINERS except different time period from

2004Q1 to 2008Q2. The criteria for RESUMERS is that firms must have at least 4

forecast within 18 month after they restart providing quarterly earnings guidance to

maintain a consistent pattern.

The procedure to match RESUMERS and NONRESUMERS are as follows: first I

identify RESUMERS discussed above. Second, I find a NONRESUMERS firm for each

firm in RESUMERS, matched by industry based on the first 2 digits of SIC code. Third, I

matched NONRESUMERS and RESUMERS by year. For example, if one RESUMERS

firm X is in business service industry with a SIC code of 73, then I identify firm Y is a

NONRESUMERES in the same industry of SIC code 73. If Firm X's year quarter is

20052Q, then I use 20052Q as the event quarter for Firm Y. Before allocating the event

quarter for Firm Y, I also need to check the stop event quarter for Y to ensure that

20052Q as the event quarter for being silence should be later than the event quarter for

stopping.

II. RESEARCH METHODOLOGY STUDY OF THE STOP EVENT

1. Univariate Analysis for the Stop Event

a.   Univariate Analysis for the Decision to Stop

 I use t-test to find the difference of board independence (OUTPCTG), institutional

ownership (INSTPCT), types of institutional ownership as transient institution

(TRANSITPCTG), dedicated institution (DEDPCTG) and quasi-index institution

(QIXPCTG) and CEOs compensation (CASHPCTG) in two groups of STOPPERS and

MAINTAINERS. The following description gives detail measure of each variable in the

univariate analysis.

OUTPCTG = the fraction of nonexecutive to total directors (The sum of the number of outside directors and the number of outside-related directors.) before the stop event

INSTPCTG = the fraction of commons stock owned by qualified institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by institution divided by total shares outstanding. The percentage is averaged   the pre-event four quarters.

DEDPCTG= the fraction of commons stock owned by dedicated institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by dedicated institution divided by total shares outstanding. The percentage is averaged the pre-event four quarters. Lists of dedicate institutions are obtained from Bushee [1998) paper.

QIXPCTG= the fraction of commons stock owned by quasi-index institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by quasi-index institution divided by total shares outstanding. The percentage is averaged the pre-event four quarters. Lists of Quasi-index institutions are obtained from Bushee [1998) paper.

TRANSITPCTG= the fraction of commons stock owned by transient institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by transient institution divided by total shares outstanding. The percentage is averaged the pre-event four quarters. Lists of transient institutions are obtained from Bushee [1998) paper.

CASHPCTG= Proportion of the cash and cash equivalent annual incentive award, calculated by the sum of CEO annual bonus and annual base salary, divided by the total annual CEO compensation before the stop event. Total Annual CEO Compensation includes the sum of total annual compensation, plus all long-term payments, including restricted stock, the value realized from stock options, any LTIP payouts and all other compensation. CEOALLTOTALCOMPENSATION is the sum of total annual compensation, plus all long-term payments, including restricted stock, the value realized from stock options, any LTIP payouts and all other compensation. [34]

b.   Univariate Analysis for the Impact to Stop

I use t-test to find the difference of R & D expenditure and capital expenditure for

STOPPERS in the pre-event period and post-event period. In particular, I examine the

capital and R & D expenditures one year and two years after the stop event. The

following is the variable measurement for R & D expenditure and capital expenditure.

RDX=R&D expenses (Compustat data #46) for the year scaled by total assets (data#6) at the beginning of the fiscal year.
CAPX=Capital expenditure (data#30) for the fiscal year scaled by the total assets (data#6) at the beginning of the year;

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[34]IF Corporate library gives the CEORESTRICTEDSTOCK (Dollar value of restricted stock awards) and CEOOPTIONVALUEREALIZED (Value realized on the exercise of stock options or stock appreciation rights (SARs)).CEOOTHERANNUALCOMP options, SARs or deferred compensation; tax reimbursement; the value of any discount received on the purchase of shares. The value realized from stock options is calculated from Proxy statement, since after 2004, corporate library does not provide. Year 2007 gives the total CEO compensation, while year 2004-2006, only listed the number of the shares as stock option, so I use the CEO total compensation based on the estimated value of the latest stock option or other long-term incentive grant(corporate library data item CEOTOTALTARGETCOMP)

2. Multivariate Analysis for the Stop Event

a. Multivariate Analysis for the Decision to Stop

To examine the association between outside directors, institutional ownership, types of institutional ownership, CEOs compensation to discontinue quarterly earnings guidance, I use the probability of discontinuing forecasts, defined as:

STOPPERS=1 if the firm stops providing quarterly earnings guidance during the fiscal quarter and 0 otherwise

To determine the association between the decision to stop and corporate governance, I specify three widely used measures—the proportion of the outside members in board, proportion of institutional ownership, proportion of dedicate institution ownership, proportion of quasi-index institution ownership and CEOs cash compensation. Variables that related to board directors are discussed in the previous section of univariate analysis, such as board independence, institutional ownership, types of institutional ownership, CEO compensation. I also use a dummy variable (DEDDM) to classify a firm with dedicated institutions own more than 50% of the total institutional ownership.

DEDDM=dummy variable (0,1) for dedicate institution majority. If dedicate institution ownership is larger than 50% of the total institutional ownership, then it takes 1, else is takes 0. I use the interaction of DEDDM and INSTPCT to examine the difference of institution types.

Control Variables

Based on prior research, I select several independent variables to control for other possible determinants of the stop decision.

Firm Performance

Lang and Lundholm [1993] find that firms provide better disclosures subsequent to good earnings and stock performance or in anticipation of improved future performance.

Miller and Piotroski [2000] document the fact that firms with stronger prospective earnings performance are more likely to provide forward-looking disclosures after controlling for prior disclosure decisions. Miller [2002] finds that the frequency of voluntary disclosures increases when firms perform well and that managers become more secretive during challenging times. Graham, Harvey and Rajgopal [2005] survey evidence finds 2 firms stop quarterly earnings guidance and ask CFOs why. Their answers reveals that when the firm is unstable and reporting negative earnings, CFOs feel that they are better off talking about assumptions underlying the earnings process and the firm's performance relative to those assumptions, so that analysts can make their own earnings estimates. In short, the interviews suggest that guidance is desirable if the firm is stable enough to deliver the guided number, but guidance is undesirable if the firm is unsure of its ability to deliver the guided earnings. Similarly, Wasley and Wu [2006] find that firms voluntarily issue cash flow forecasts when they have good news to impart. Chen et al. [2007] and Houston [2007] both document that firms with poor performance are more likely to stop earnings guidance. Therefore, I control for the operational and market performance of a firm as FTEPS, MBPTN and RETURN. FTEPS measured by the change in average diluted earnings per share (split-adjusted) from the four pre-event quarters to the four post-event quarters, deflated by the stock price at the beginning of the pre-event period. MBPTN is the frequency of management beat/meet analyst forecast in the four quarters before the stop event (I use 4 as deflator to show the percentage). RETURN is the buy-and-hold return (compounded monthly) during the one-year period before the earnings announcement for the quarter preceding stoppage, less the

buy-and-hold return on the equal-weighted market index in the same period. If firms stop

guidance because of poor stock performance, we expect a negative coefficient on Return.

Difficulty to Predict

Many corporations claim that the reason to stop quarterly earnings guidance is due to

the difficulty to predict. For example, more than 10 firms that stopped quarterly earnings

guidance, including Leapfrog Enterprises, Tweeter Home Entertainment, Microstratgey,

Novell, Central Parking, Haverty Furniture, Copart, Westpoint Systems, Action

Performance, Int'l Flavors and Fragrance, Bob Evens Farms and Penton Mediagives, all

state that "difficult to predict" are the primary reasons for ceasing the guidance. I use two

proxies (DISP and FUTUREVAR) to measure the difficulty of predicting earnings trend

from the analyst and from the management. DISP is measured as the standard deviation

of analyst forecasts of earnings as of the most recent consensus before earnings

announcement, averaged over the pre-event period to capture forecasting uncertainty. To

scale for cross-sectional differences in EPS, I deflate forecast dispersion by the stock

price at the end of the pre-event period. FUTUREVAR is the change, from the four

pre-event quarters to the four post-event quarters, in the sum of the absolute difference

between quarterly EPS and the EPS in the same quarter of the year before the pre-event

period. I deflate this measure by the stock price at the beginning of the pre-event period.

Prior Forecast Optimism

Management prior forecast characters affect the prosperity of future management

forecast. In particular, considering the severe punishment of stock reaction for missing

analyst forecast and the potential litigation risk, management with optimistic forecasts

tend to risk their reputation without any credibility gain from providing earnings forecast.

In particular, Hribar and Yang [2006] finds that overconfident CEOs are more likely to miss their own forecasts of earnings, hence have less specific forecast after missing analyst forecasts. I use MGTBIAS to measure the directional difference between the actual earnings and the management forecast earnings. If MGTBIAS is higher, it means that the management forecast is less optimistic. I posit a negative association between MGTBIAS and the decision to stop.

Price Volatility

Lang and Lundholm [1993] argue that the variability of the past return performance is likely to reflect the unpredictability of future performance and therefore proxy for the information asymmetry. In particular, they suggest that firms with higher volatility will be less likely to stop quarterly earnings guidance. Survey evidence in McKinsey & Co. in 2006 also suggests that price volatility is one of the main concerns to stop quarterly earnings guidance. As to consequences of reducing the frequency of EPS guidance and 41 percent said their share price would become more volatile. If EPS guidance were eliminated, 46 percent cited increased share price volatility. I use VOLATILITY to measure the information asymmetry between the management and the investors, measured by the standard deviation of monthly return for the past one year before the stop event. I predict that higher VOLAILITY, less likely for a firm to stop quarterly earnings guidance.

Analyst Following

Previous Literature (Bhushan [1989a, b] and Lang and Lundholm [1996]) suggests that analyst following is associated with a firm's disclosure policy, especially voluntary disclosure. Sell-side analysts are concerned with maintaining an information advantage

regarding upcoming earnings to enhance their track record for accurate earnings forecasts. At the extreme, if management refuses to provide earnings guidance, analysts may drop coverage rather than dam age their accuracy record. When management's private information is not fully revealed through required disclosures, voluntary disclosure lowers the cost of information acquisition for analysts and increases the amount of information available to analysts, and hence increases the number of analysts following the firm. However, evidence on its directions is mixed. On one hand, firms with higher levels of large analyst followings are more likely to voluntarily provide forecast to attract their attentions. On the other hand, firms with higher levels of analyst following may not need to provide information since they are already attracted by the analysts and are less likely to be neglected by the market. However, once the analysts are attracted and the firm reduces the quarterly earnings forecast, the empirical evidences suggest that analyst followings do decrease. Survey evidence in McKinsey & Co. in 2006 also suggests that more than three-fourths of the companies providing EPS guidance say that the practice helps to satisfy the demands of analysts and investors and slightly fewer attribute the value of guidance to be a means for maintaining a channel of communication with analysts and investors. As to consequences of reducing the frequency of EPS guidance, 46 percent cited a decrease in company visibility as analysts reduce coverage. If EPS guidance were eliminated, 56 percent said the company's visibility would be negatively affected. I use ANALYST as a proxy for analyst followings, measured by the average number of analysts whose forecasts are included in the most recent consensus before earnings announcements for the four pre-event quarters. I predict a negative association between the firm's decision to stop and the analyst followings.

Growth Opportunity

Stock market's asymmetric response to earning surprises (stock prices respond more to negative earnings surprises than to positive earnings surprises) is particularly large for high-growth firms (Skinner and Sloan 2002). Therefore, managers of firms with higher valuation multiples (price-to-earnings and market-to-book) are likely to face greater pressure not to disappoint. Miller and Piotrosky [2000] argued that firms with higher market/book value are more likely to provide forecast to maintain the higher expectation of the market. In particular, high growth firms derive more of their value from growth opportunities, meaning that their earnings in any period tend to be less certain, which is potentially associated with a higher cost of capital, so they may attempt to lower information asymmetry by making future forecasts. The lower the book-to-market ratio is, the less reflective accounting is of firm value and the more difficult it is to interpret accounting information. Thus, a negative relation between the book-to-market ratio and management's decision to provide earnings forecasts may also reflect management's decision to supplement low-quality accounting information with high quality of earnings guidance. Alternative explanation is that low MB firms are motivated to communicate to the market to increase its market value. However, in terms of bad news, low MB firms are less likely to provide forecast due to the lower market value already. I use MB as a proxy of growth opportunity, measured by the market/equity ratio.

Size

While some research finds that large firms are more likely to disclose (Lev and Penman [1990] and Lang and Lundholm [1993]) due the economics of scale to make earnings forecast preparation and dissembling less costly for large firms, other research

indicates that smaller firms are more likely to disclose to increase stock's liquidity and attract analysts attention (Brown and Kim [1993]. Differences in firm size can proxy for a host of firm attributes, including, but not limited to, differences in information environments, legal liability and disclosure costs. LOGMVE is used to control for firm size, measured as the log of the market value of equity (in millions) at the end of pre-event period. Given that the relationship between firm size and disclosure may be context specific, I do not provide any empirical prediction on the expected relationship.

Litigation

Different industry displays different litigation risk. Prior studies (Skinner [1996]) has identified that four industries as the bio-tech (SIC 2833-2836), computer hardware (SIC 3570-3577), computer software (SIC 7371-7379), electronics (SIC 3600-3674), and retail industries (SIC 5200-5961) have higher litigation risks than that of other industries. I use LITIRISK, a dummy variable to proxy the litigation risk. It takes 1 if the firm belongs to the four high risk industry and 0 otherwise.[35]

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[35] Other control variables include financing need, complexity of business, sophisticated financial transaction, and value-relevance of earnings on price.   For financing need, firms in need of external capital are likely to be more susceptible to pressure from the investment community to provide earnings guidance because they need analyst coverage and institutional participation to facilitate the placement of new securities offerings. Managers of these firms are also likely to be more concerned with temporary undervaluation that may follow disappointing earnings news, whereas a firm that does not require external financing faces less pressure from Wall Street and has fewer concerns with temporary undervaluation, whereas such firms are less likely to provide earnings guidance of any sort (selective or public) (see Frankel McNichols, and Wilson 1995). Alternatively, firms in need of external capital are courted by sell-side analysts who are willing to provide positive recommendations and optimistic growth forecasts to win investment banking business. External Financing: sum of debt and equity issurances in years-1 to+1 surrounding the year of interest, scaled by the total assets (Data from Securities Data Corporation SDC). Complexity of the firm's business and frequency of the sophisticated financial transaction are also used as control variables in the previous studies such as Hutton [2005]. When a firm engages in many lines of business, the analyst community is less likely to provide sufficient coverage (Gilson, Healy, Noe, and Palepu 2001).Number of segments is a proxy of the complexity of business. Similarly, when a firm engages frequently in sophisticated financial transactions such as mergers, acquisitions, and divestitures, analysts are likely to face greater difficulties in forecasting its future earnings (Barth, Kasznik, and McNichols 2001). The percent of assets that are intangible may also proxy for active (stock for stock) acquisition strategies and managerial incentives to avoid disappointing earnings news, that is, firms with active acquisition strategies are likely to face greater incentives to manage near-term earnings expectations to

LIST OF CONTROL VARIABLES:

FTEPS =The change in average diluted earnings per share (split-adjusted) from the four pre-event quarters before the stop event   to the four post-event quarters, deflated by the stock price at the end of the pre-event period.

MBPTN=The proportion of quarters in the four pre-event quarters before the stop event   for which a firm meets or beats the most recent analyst consensus compiled before earnings announcement. Its values are 0, 0.25, 0.5 and 1.

RETURNS=The buy-and-hold return (compounding monthly) in the one-year period that ends with the month of the earnings announcement for the quarter before the stop event , subtracted by the buy-and-hold return of the equal-weighted market index during the same period.

DISP=standard deviation of analyst forecasts included in the most recent consensus before earnings announcement, averaged in the four pre-event quarters before the stop event   and deflated by the stock price at the end of the pre-event period**.**

FUTUREVAR=change, from the four pre-event to the four post-event quarters before the stop event   , in the sum of the absolute difference between quarterly EPS and the EPS in the same quarter of the year before the pre-event period, deflated by the stock price at the end of the pre-event period.

FERROR= Absolute analyst forecast error, calculated by absolute value of the difference between Actual value and the mean analyst forecast in the most recent consensus, in average four pre-event quarters, deflated by the stock price at the end of the last quarter of pre-event period before the stop event .

ANALYST=number of analysts whose forecasts are included in the most recent consensus before a firm's quarterly earnings announcement, averaged in the four pre-event quarters before the stop event

VOLATILITY= the standard deviation of monthly returns in the one-year period before the stop event, subtracted by the standard deviation of the equal-weighted market return in the same period.

MGTBIAS= Management forecast error, calculated by (Actual value- Management forecast value), in average four pre-event quarters before the stop event, deflated by the stock price at the beginning of the pre-event period. If the forecast is a close end, then it is the midpoint as the management forecast value. If it is an open end, I compare the actual value to the minimum or to the maximum. If it is qualitative then the forecast error is 0.

LITIRISK=Dummy variable if the firm belongs to the high litigation risk industry, the bio-tech (SIC 2833-2836), computer hardware (SIC 3570-3577), computer software (SIC 7371-7379), electronics (SIC 3600-3674), and retail (SIC 5200-5961) industries, respectively. 0 means otherwise.

MVE =the market value of equity of the last quarter before the stop event (in millions of dollars, calculated by the shares outstanding multiply the stock price at the beginning of the pre-event period (Compustat DATA 14* DATA15, adjusted by the stock split factor, in millions of dollars).

TA = Total Assets at the end of the pre-event period before the stop event (Compustat data 44) (in millions of dollars).

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avoid dramatic (if only temporary) stock price declines resulting from earnings shortfalls. Importance of earnings to share price can also be control variables, proxied by Industry-ERC Rsquare. Rsuare from a regression of market-adjusted returns on annual change in earnings and level of earnings/deflated by prior price, estimated by 4-digit SIC code over 1997-2000: If earnings are a strong indicator of future cash flows and firm value, then market participants are likely to react more strongly to earnings surprises; hence, managers of firms with high value-relevance of earnings are likely to be more concerned about meeting analysts' forecasts (Matsumoto 2002) and therefore are less likely to stop quarterly earnings guidance. However, prior research suggests that the value-relevance of earnings and other accounting information is lower in some industries, particularly high-technology industries (e.g., Amir and Lev 1996).

MB=Ratio of the market value of equity before the stop event (Compustat DATA 14* DATA15)/book value of equity (Compustat data 59)**.**

LOGMVE= log transformation of Market Value of Equity

Model 1 to 5 test the hypothesis of corporate governance (H1, H2, H3, H4) on a firm's decision to discontinue quarterly earnings forecast. Specifically, Model 1 tests H1 of board independence, Model 1 test H2 of institutional ownership, Model 3A, 3B, 3C test H3 of types of institutional ownership, Model 4 test H4 of CEOs compensation, Model 5 test aggregated association of board independence, institutional ownership, types of institutional ownership, CEOs compensation and the decision to stop. Because the dependent variable STOPPER is a binary variable, I estimate this equation with a probit model.

Model 1:
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 OUTPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 2
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 INSTPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 3A
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 DEDPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 3B:
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 QIXPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 3C:
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 INSTPCTG + \beta_2 DEDICATED * INSTPCTG + \beta_3 MBPTN + \beta_4 FTEPS +$$
$$\beta_5 RETURN + \beta_6 MGTBIAS + \beta_7 DISP + \beta_8 FUTUREVAR + \beta_9 VOLATILITY + \beta_{10} LITIRISK +$$
$$\beta_{11} ANALYST + \beta_{12} LOG(MVE) + \varepsilon$$

Model 4:

$$\Pr obablity(stoppers=1) = \beta_0 + \beta_1 CASHPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 5:

$$\Pr obablity(stoppers=1) = \beta_0 + \beta_1 OUTPCTG + \beta_2 INSTPCTG + \beta_3 DEDDM*INSTPCTG + \beta_4 CASHPCTG$$
$$+ \beta_5 MBPTN + \beta_6 FTEPS + \beta_7 RETURN + \beta_8 MGTBIAS + \beta_9 DISP + \beta_{10} FUTUREVAR + \beta_{11} LITIRISK$$
$$+ \beta_{12} VOLATILITY + \beta_{13} ANALYST + \beta_{14} LOG(MVE) + \varepsilon$$

b. Multivariate Analysis for the Impact to Stop of Stoppers

DEPENDENT VARIABLE:
RDX=R&D expenses (Compustat data #46) for the year scaled by total assets (data#6) at the beginning of the fiscal year.
CAPX=Capital expenditure (data#30) for the fiscal year scaled by the total assets (data#6) at the beginning of the year;

MEASUREMENT OF INDEPENDENT VARIABLE
GROUP=1 if firms are in the post-event period, 0 if firms are in the prior-event period;

Controlled Variables

Funds Availability:

It is argued that external financing for R & D is expensive and/or difficult to attain, so as a consequence, the level of internally generated funds may have a significant influence on the timing and magnitude of investment in R & D. Myers (1984) focuses on the asymmetric information between the management and the external funding agencies. Although insiders have superior information about the R & D projects, it is difficult for the management to reveal it to the capital market since the revelation of this information provides an important signal to competitors and even announcing it will provide the competition with valuable information. So a pecking order exists when internal funds are preferred to external sources of capital. FUNDS is a proxy for the availability of internally generated funds and calculated by (Income before extraordinary items + R &D +Depreciation)/Sales. I also use sales to proxy for the funds availability. Sales are the sources of the R & D expenditure due to the sales budget.

Growth Opportunity:

I use BM, Tobin's Q and Growth to control for the firm growth opportunity. BM is the ratio of book value and market value of firm equity Tobin's q is to measure the marginal benefit over marginal cost of installing an additional unit of new investment good. The average q is positively related to a firm's R& D expenditures. GROWTH is the median of the analyst's long term growth forecast. Theory shows that firms with a higher growth opportunity tend to invest more in the long-term investment.

Leverage Level:

Debt can influence the R & D expenditure and capital expenditure in the following ways. First, Smith and Warner [1979] and Duke and Hunt [1990] argue that debt providers are hesitant to the risky projects since they bear the downside risk and not the upside gain, so the debtholder power will create risk-averse managers. Second, when a firm has a higher debt, debt imposes strict rules on corporate governance, which leads to a tendency of reducing R & D expenditures and capital expenditures. Third, since R & D spending results in high specialized assets that are not easily sold to another firm, firms with a higher level debt are less likely to invest in R & D expenditures. Fourth, higher debt level results to a higher interest payable and it directly reduces the funds available on the R & D expenditures and capital expenditures. As debt increases, senior managers are forced to focus on short-term cash flow goals to meet interest payments. LEV is measured as the leverage level of a firm, calculated by the long-term debt and short-term debt, standardized by the total assets. So I should observe a negative association between the LEV and R & D expenditures. However, capital expenditures are different to the R & D expenditures, in a sense that capital expenditure usually takes the form of plant and

machinery equipments, their liquidity is better than the specialized assets from R & D expenditure. In addition, in many cases, debtors use the purchased capital assets such as PPE to collateralize the lending, which might reduce the risk of default. So I can not predict the directional association between the LEV and the capital expenditure.

Institutional Ownership:

Dobrzyniski [1993], Monks and Minor [1995] argue that institutions that invest in firms with the intention of holding substantial ownership blocks over a long horizon have strong incentives to incur the cost of explicitly monitoring managers and ensure that the firm does not cut profitable long-term investment to meet short-term earnings goals. Opler and Sokobin [1997] find that poorly performing firms targeted by the Councile of Institutional Investors for shareholder activism have substantially improved profitability, greater asset divestitures. Bushee [1999, 2000] shows that a firm with a higher level of dedicated institution is more likely to invest in a long-term investment. Transit institutions, however, concentrates on the current earnings performance based on their strict fiduciary responsibilities that motivate them to sell stocks with declining earnings since the fund sponsors and the court use earnings as an objective criterion to judge the prudence of an investment. Second, transit institutions subject to frequent performance evaluation have incentives to sell poor earnings performers to window dress their portfolio, third, the transit institution investors might use current earnings as a value proxy in their trading decision due to an information asymmetry surrounding the quality of long-term investment spending since they might have less resources than the dedicated institutions to gather information on long-term prospects and they have short expected holding periods. DED is the ownership by dedicated institutions.

Industrial level of the R & D Expenditure/capital expenditure

Industrial level of the R & D Expenditure/capital expenditure is argued by Grabowski and Baxter [1973], Grabowski and Mueller (1978), industrial R& D level in certain concentrated industries have been found to be a major element of competition, so it is expected that a given firm's R& D expenditures is influenced by those of rivals. Second, prior literature uses the 4 digits to classify the industry and various methods to calculate the industry average R& D expenditure.[36]

LIST OF CONTROL VARIABLES:
BM=Ratio of book value of equity (data#60) to market value of equity (data#25*data#199) at the end of the year;
GROWTH=Median of the analysts' long term growth forecast(annual) at the end of the year from First Call;
LOGMV=log of market value (data #25*data #199) at the end of the year
LEV=short term debt (data#34) plus long-term debt(data#9) over total assets (data#6) at the end of the fiscal year
DED=Percentage of the dedicated institutional holding at the end of the year from CDA/Spectrum Institutional Holding database.
INDRDX/CAPX=Industry average RD expenditure and Capital Expenditure, calculated by the first 2 digits of SIC code
SALES=Sales (data#12) for the fiscal year scaled by total assets (data#6) at the beginning of the year;
FUNDS= (Income before extraordinary items + R &D +Depreciation)/Sales
TOBINQ= (price *shares +book value of preferred stock +long-term debt + short-term debt)/assets

Model 6 and 9 are to test H5:

Model 6 and 7:

RDX/ CAPX
=
$$\beta_0 + \beta_1 GROUP + \beta_2 BM + \beta_3 GROWTH + \beta_4 LOGMVE + \beta_5 LEV + \beta_6 DED + \beta_7 SALES + \varepsilon$$

Model 8:
$$RDX = \beta_0 + \beta_1 GROUP + \beta_2 FUNDS + \beta_3 SALES + \beta_4 TOBINQ + \beta_5 GROWTH + \beta_6 LEV \\ + \beta_7 DED + \beta_8 LOGMVE + \beta_9 INDRDX + \varepsilon$$

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[36] Two main control variables are usually present in the previous studies such as Berger [1993], Barber Fairfield, and J. Haggard [1991] and Bushee [2000] as GNP and industrial level of the R & D expenditures and capital expenditures. GNP refers to gross national products: to proxy the level of technological progress. Solow [1957] GNP can be isolated from changes in labor and capital and the residue is the technological progress, measured by GNP/Sales. I only for the industry level of R & D expenditures for the STOPPERS firms in the prior-and-post regression. But this study does not control for these two variables in the change model due to the fact that I only consider the two year periods, not a long time horizon, and in the comparison model between the STOPPERS and the MAINTAINERS, I matched by the industry-year-quarter, so there is no need to control for these two variables.

Model 9:

$$\text{CAPX=} \begin{aligned} &\beta_0 + \beta_1 GROUP + \beta_2 FUNDS + \beta_3 SALES + \beta_4 TOBINQ + \beta_5 GROWTH + \beta_6 LEV \\ &+ \beta_7 DED + \beta_8 LOGMVE + \beta_9 INDCAPX + \varepsilon \end{aligned}$$

c. Multivariate Analysis for the Impact to Stop of Stoppers and the MAINTAINERS

DEPENDENT VARIABLE:
CRDX=Change of RD expenditure from y1 to y0 or from y2 to y0;
CCAPX=Change of Capital Expenditure from y1 to y0 or from y2 to y0;
MEASUREMENT OF INDEPENDENT VARIABLE
GROUP=1 if firms are STOPPERS, 0 if firms are MAINTAINERS;

Controlled Variables:
CFUNDS=change of FUNDS available from y1 to y0 or from y2 to y0;
CSALES=Change of SALES from y1 to y0 or from y2 to y0;
CTONBINQ=Change of TOBINQ from y1 to y0 or from y2 to y0;
CGROWTH=Change of GROWTH from y1 to y0 or from y2 to y0;
CLEV=Change of LEV from y1 to y0 or from y2 to y0;
CDED=Change of DED from y1 to y0 or from y2 to y0;
CLOGMV=Change of LOGMV from y1 to y0 or from y2 to y0;

Model 10 and 11 are to test H5:

$$\text{CRDX/CCAPX=} \begin{aligned} &\beta_0 + \beta_1 GROUP + \beta_2 CFUNDS + \beta_3 CSALES + \beta_4 CTOBINQ + \beta_5 CGROWTH \\ &+ \beta_6 CLEV + \beta_7 DED + \beta_8 CLOGMVE + \varepsilon \end{aligned}$$

III. RESEARCH METHODOLOGY STUDY OF THE RESTAT EVENT

1. Univariate Analysis for the Restart Event

I use T-test to compare the means of the variables to test the firm performance and earnings expectation management hypothesis (H6 and H7) for two groups as RESUMERS and NONRESUMERS. To test H6, I use two sets of measurement as a firm's earnings (PEPS and FTEPS) and market performance to measure performance (RETURNS). EPS, FTEPS and RETURNS are measured similar to that of STOPPERS and MAINTAINERS. For H7, I use CMB and FBIAS. CMB measures the change of the beat/meet analyst forecast pattern in the pre-event period and in the post-event period while FBIAS measures the analyst forecast error in the pre-event period.

Operational Performance

PEPS = The change in diluted earnings per share (split-adjusted) from the same quarter in the prior year, averaged in the four pre-event quarters before the restart event and deflated by the stock price at the end of the pre-event period.

FTEPS = The change in average diluted earnings per share (split-adjusted) from the four pre-event quarters before the restart event to the four post-event quarters, deflated by the stock price at the end of the pre-event period.

Market Performance

RETURNS= The buy-and-hold return (compounding monthly) in the one-year period that ends with the month of the earnings announcement for the quarter the restart event, subtracted by the buy-and-hold return of the equal-weighted market index during the same period.

Earnings Expectations Management

CMB= The change of frequency of meet/beat analyst forecast during the past 4 quarters before the restart event (**MBPTNBEFORE)** and the post 4 quarters after the starting event (**MBPTNAFTER**).

MBPTNBEFORE= the proportion of quarters in the four pre-event quarters before the restart event for which a firm meets or beats the most recent analyst consensus compiled before earnings announcement. The threshold is 1 cent, from \$0.00<=SURPRISE ERROR <=\$0.01. Its values are 0, 0.25, 0.5 and 1.

MBPTNAFTER= the proportion of quarters in the four post-event quarters after the restart event for which a firm meets or beats the most recent analyst consensus compiled before earnings announcement. The threshold is 1 cent, from \$0.00<=SURPRISE ERROR <=\$0.01. Its values are 0, 0.25, 0.5 and 1.

FBIAS= Biased analyst forecast error, calculated by value of the difference between Actual value and the mean analyst forecast in the most recent consensus, in average four pre-event quarters before the restart event, deflated by the stock price at the end of the last quarter of pre-event period.

2. Multivariate Analysis for the Restart Event

To examine the association between firm performance, managing expectation and the decision to restart quarterly earnings guidance, I use the probability of restart forecasts:

Restart=1 if the firm restart providing quarterly earnings guidance during the fiscal quarter and 0 otherwise

The dependent variable Restart is a dummy variable, and takes value either 1 or 0. I use PEPS, FTEPS, RETURNS, CMB, FBIAS to examine the impact of a firm's performance and earnings expectation management on a firm's decision to restart. I use similar control variables described from the model of stop decision. In particular, I use DISP and FERROR to proxy the difficulty to predict and the information need to management forecast. VOLALITY is used to proxy for the difficulty to predict. CANALYST and CINST is proxy for the demand from analyst and institution.

LOGMVE is proxy for size and MB is proxy for proprietary cost. The following

illustration presents the detail measures of the control variables.

LIST OF CONTROL VARIABLES:
DISP=standard deviation of analyst forecasts included in the most recent consensus before earnings announcement, averaged in the four pre-event quarters the restart event and deflated by the stock price at the end of the pre-event period**.**
FERROR= Absolute analyst forecast error, calculated by absolute value of the difference between Actual value and the mean analyst forecast in the most recent consensus, in average four pre-event quarters before the restart event, deflated by the stock price at the end of the last quarter of pre-event period.
VOLATILITY= the standard deviation of monthly returns in the one-year period before the event quarter, subtracted by the standard deviation of the equal-weighted market return in the same period.
CANALYST=Change of the average analyst followings during the four quarters before the stop event and the average analyst follows during the four quarters before the restart event.
CINST= Change of the average institutional ownership during the four quarters before the stop event and the average institutional ownership during the four quarters before the restart event.
MVE =the market value of equity at the beginning of the restart event quarter (in millions of dollars), calculated by the shares outstanding multiply the stock price at the beginning of the pre-event period (Compustat DATA 14* DATA15, adjusted by the stock split factor, (in millions of dollars).
TA = Total Assets at the end of the pre-event period before the restart event (Compustat data 44) (in millions of dollars).
MB=Ratio of the market value of equity (Compustat DATA 14* DATA15)/book value of equity (Compustat data 59) before the restart event.
LOGMVE= log transformation of Market Value of Equity
LOGTA =log transformation of Total Assets at the end of the pre-event period (Compustat data 44) (in millions of dollars).

Model 12 is to test hypothesis of the firms' decisions to restart quarterly earnings

forecast (H6 and H7).

Model 12:

$$\text{Pr(Resume} = 1) = \text{F}\,(\beta_0 + \beta_1 PEPS + \beta_2 FTEPS + \beta_3 RETURNS + \beta_4 CMB + \beta_5 FBIAS + \beta_6 DISP + \beta_7 FERROR + \beta_8 VOLATILITY + \beta_9 MB + \beta_{10} LOGMVE + \beta_{11} + \beta_{12} + \varepsilon)$$

Because the dependent variable Resume is a binary variable, I estimate this equation with

a probit model.

IV. SAMPLE SELECTION

1. Sample Selection for the Stoppers

a. Database and Selection Criteria

I use First Call Company Earnings Guidelines (CIG) database to identify the STOPPERS and RESUMERS. The First Call Historical Database, or FCHD, is a history of First Call's Real Time Earnings Estimates by collecting company guidelines from press releases and interviews. The advantage of using the CIG file is that it provides a sample size much larger than would be practical with hand-collected datasets. One disadvantage is that there may be an unknown bias in First Call's collection or reporting of earnings guidance[37].

The sample period for identifying STOPPERS and MAINTAINERS is 2000Q1-2006Q4 (due to the Regulation Fair Disclosure (FD)). The sample period for RESTARTERS and NONSTARTERS is 2004Q1-2008Q2. I restrict EPS forecasts denoted in U.S. dollars. Observations in which management earnings guidance and subsequently realized earnings would be inconsistent due to a merger or accounting change are also deleted. All actual earnings and analyst information are also obtained from First Call. Return data from CRSP and obtain information on SIC code, book value, and market value from Compustat. Corporate Governance related data is from Corporate Library, and other variables such as CEO compensation, I collect from Edgar Proxy Statement (Details are shown in variable description section on Table 9). Because Corporate Library does not provide enough coverage for the institutional ownership data, I obtain it from Thomas Reuters Ownership Data.

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[37] A conversation with a representative from First Call confirmed that they make an effort to collect all announcements of earnings guidance and they do not intentionally follow or report only a subset of firms. However, Miller (2002) finds that the CIG file emphasizes quantitative forecasts, reporting a lower percentage of qualitative forecasts than is typically obtained through hand collection of disclosures. An additional disadvantage is that the CIG file emphasizes recent earnings guidance, with very few observations before 1994.

The trend in the percentage of firms with annual and quarterly forecasts during 2001-2006 is also presented in Figure 3 and Table 1. Both indicate that the number of the forecast firms decreases from 2773 in 2001 to 1904 in 2007. As the number of the firms across all sections increases, the ratio of the forecasting firms also decreases from 37% in 2001 to 22% in 2007. Forecast content varies among firms as basic EPS from continuing operation, diluted EPS from continuing operation, EBITDA (earnings before interest, tax, depreciation and amortization). Some firms choose to provide (net) revenue and sales numbers, both in absolute dollar size and in percentage change term compared to the same quarter last year or last year. Other firms forecast profit per share[38].

Figure 6 presents detail steps of sample selection. Based on the industry-year-quarter matched methodology, I have identified 693 STOPPERS and 1477 MAINTAINERS. However, 240 firms were deleted due to the discontinuing business operation. Later, 139 firms were deleted due to merging with Compustat, CRSP, Corporate Library, Edgar and Thomas Reuters Ownership Data. Therefore, the final sample for STOPPERS is 314 STOPPERS. In total, 50 maintainer firms are deleted due to unmatched industry SIC code. Then I matched by year quarter, and delete 86 firms due to mismatch by year and quarter. My final sample include 1296 MAINTAINERS.

b. *Year Distribution of STOPPERS*

Table 4 Panel 2 lists the STOPPERS by year from 2001 to 2006. Similar to the National Investors Relations Survey in 2007, an upward trend is clearly seen, starting

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[38] Other non-earnings related guidance also includes Operational Changes (e.g. restructuring plans, new store openings, acquisitions or disposals of business units.), Estimates of Key Drivers for Earnings (e.g. profit margins, segment sales, expenses, tax rate), New Products or Services (e.g. prospective products or services, drugs in the FDA approval process), New Alliances or Important Contracts, Capital Expenditure, R&D Spending, Financing Plans (e.g. debts, stock repurchases, change in dividend policy), Estimated Effect of Legal Actions, Firm's forecast of Industry Factor**.**

from only 19 stopping firms in 2001 to 31 firms in 2002. After a slight down of 21 firms in 2003, the STOPPERS firms became 73 firms in 2004, and in 2005, the number is the highest, 103 firms stopped earnings guidance. In 2006, the number declined to 67 STOPPERS. Figure 4 Panel 4 presents the year quarter distribution for the STOPPERS and MAINTAINERS. Throughout each year, we can identify the seasonal pattern for STOPPERS. It reaches its maximum in the first quarter, reduces in the second quarter.

c. *Industry Distribution of STOPPERS and MAINTAINERS*

Table 1 and 2 list the industry and year quarter features of the STOPPERS and MAINTAINERS. Table 3 includes 18 STOPPERS with annual forecast while Table 4 only include STOPPERS with both quarterly and annual forecast. I used two classifications of the industry. Table 3 presents six industries distribution: mining (SIC code: 10-14), construction (SIC code: 15-17), manufacturing (SIC code: 20-39), transportation and communication (SIC code: 20-39), wholesale trade (SIC code: 50-51), retail trade (SIC code: 52-59), finance industry (SIC code: 60-67) and service industry (SIC code: 70-89). Among 6 industry analysis, 174 STOPPERS concentrate in the Manufacturing industry, followed by 47 STOPPERS in both Construction Industry and Service Industry. Table 2 provides quarterly distributions. Firms that stop quarterly earnings guidance are concentrated on the first quarter.

Table 2 presents the industry distribution based on the two digits of SIC code, which shows some interesting results, in particular, the consideration of litigation risk. For example, high tech industries, such as chemicals and allied products (SIC 28), Industrial and Commercial Machinery and Computer equipment (SIC 35), electronic and other electrical equipments (SIC 36) and business service (SIC 73) and engineering, accounting

industry (SIC 87) have a number of STOPPERS while the regulated industry such as finance industry, communication industry and utility industry has fewer STOPPERS. For instance, electronic and electrical components industry has the largest number of STOPPERS as 34 firms, followed by business services as 28 STOPPERS, instruments and measurements 26 firms. Maintainer's industry follows similar pattern: 377 firms in business services industry maintain the earnings guidance while 303 firms maintain the earnings guidance practices in the electronic and electrical equipment industry. Interestingly, 138 firms as MAINTAINERS belong to industrial and commercial machinery and computer equipment industry, while only 24 firms in this industry stopped the earnings guidance. The healthcare industry and the wholesales industry also have several STOPPERS.

d. Size Distribution of STOPPERS and MAINTAINERS

In order to check the impact of firm size on a firm's quarterly earnings guidance, I also check the sample for STOPPERS and MAINTAINERS to ensure that these two groups have a similar size distribution. Table 3 lists the size distribution of STOPPERS and MAINTAINERS, measured by total assets before the stop event. I use 7 categories, firm size less than 100 million, between 100 million and 500 million, between 500 million and 1 billion, between 1 billion and 5 billion, between 5 billion and 10 billion, between 10 billion and 50 billion, and over 50 billion. Table 3 indicates the similar size distribution between two groups STOPPERS and MAINTAINERS. STOPPERS have more small firms than MAINTAINERS, 1.6% of STOPPERS are less than 100 million in size while 7.7 % of MAINTAINERS are less than 100 million in size. In addition, only 19.7 % of the STOPPERS have the firm size between 100million and 500million, lower

than that of the MAINTAINERS (32.3%). For firms with middle assets size, both STOPPERS and MAINTAINERS have similar distribution. In particular, about 20% of the STOPPERS (18.5 %) and MAINTAINERS (19.1%) have a firm size between 500 million and 1 billion, while 39% of STOPPERS have a firm size between 1 billion and 5 billion, a little higher than that of MAINTAINERS (27.9%). For large size firms, I also observe a higher proportion of the STOPPERS compared to the MAINTAINERS. 9.2% of the STOPPERS have a size between 5 billion and 10 billion, higher than that of the MAINTAINERS (4.9%). For firms with a size between 10 billion and 50 billion, STOPPERS have a higher proportion (10.2% vs 7.4%). For super large firms, I also find that the STOPPERS have more super large firms than that of the MAINTAINERS (1.6% vs 0.7%). In summary, the distribution of the STOPPERS in terms of the firm size is more spread with a heavy leverage on the big firms, while the MAINTAINERS firms are more concentrated on the middle size firms.

In terms of the size distribution for both the STOPPERS and MAINTAINERS in years from 2001 to 2006, I find a similar pattern with a concentration on the middle size firms in both groups. Since the study has an industry-year-quarter matched research design, I argue that the two groups as STOPPERS and MAINTAINERS have a similar distribution of the firm in size even in each year.

2. Sample Section for the RESUMERS and NONRESUMRES

a. Sample Selection Procedure

Figure 7 presents detail steps of sample selection for RESUMERS and Non-RESUMERS. Overall, initial RESUMERS identified are 144 firms, however, after

deleting 12 firms for lacking data from Compustat and CRSP and 14 firms without any matched NONRESUMERS in the same industry; my final sample of RESUMERS includes 118 firms. The initial NONRESUMERS are 309 firms, however, after deleting 10 firms without data from Compustat and CRSP, 38 firms without industry match and 28 firms without year quarter match, my final sample for RESUMERS include 224 firms.

b. Year Distribution for RESUMERS and NONRESUMERS

Table 4 presents the year distribution for RESUMERS and NONRESUMERS. In year 2004 and 2005, only 18 firms resumed the quarterly earnings guidance practices in each year, however, in 2006, the number increases dramatically to 32 firms, almost double the amount in previous years. In 2007, this upward trend continues since 37 RESUMERS began forecasting quarterly earnings. Since in 2008, the sample only covers the first 2 quarters, therefore, the firms that restarted are only 13. The second table lists the frequency of the RESUMERS in each quarter for the correspondent years. The 1st quarter in 2006 witness a highest level of RESUMERS as 11 firms restarted. Figure 5 also illustrates the time difference for the RESUMERS, between the period of stop and the period of resume. In particular, I find that many STOPPERS restart quarterly earnings guidance after 9 quarters (11 firms). Several firms also restart after 5 years silence, with a maximum silent period for 29 quarters, almost over 7 years.

c. Industry Distribution for RESUMERS and NONRESUMERS

Table 5 presents the industry distribution for RESUMERS and NONRESUMERS. It displays a similar pattern for STOPPERS and MAINTAINERS. Interestingly, the industry of electronic and electronic equipments and components have the largest number

of the firms as RESUMERS (18), followed by business services industry(14), and
chemical and allied products industry(13), and industrial and commercial machinery and
computer equipment industry (12).

d. Size Distribution for RESUMERS and NONRESUMERS

In order to check the impact of firm size on a firm's decision to restart quarterly
earnings guidance, I also check the sample for RESUMERS and NONRESUMERS to
ensure that these two groups have similar size distribution. Table 6 lists the size
distribution of RESUMERS and NONRESUMERS, measured by total assets before the
stop event. Similar to STOPPERS and MAINTAINERS, I use 7 categories, firm size less
than 100 million, between 100million and 500million, between 500million and 1 billion,
between 1 billion and 5 billion, between 5 billion and 10 billion, between 10 billion and
50 billion, and over 50 billion to classify the sample. Table 6 indicates a similar size
distribution between two groups RESUMERS and NONRESUMERS in each category.
For example, both RESUMERS and NONRESUMERS have about 1 % of the firms with
a size less than 100 million dollars (RESUMERS 0.08% and NONRESUMERS 1.3%). In
addition, 22 % of the RESUMERS have the firm size between 100million and 500million,
a little higher than that of the NONRESUMERS (19.6%). For firms with middle assets
size, both RESUMERS and NONRESUMERS have a similar distribution. In particular,
about 13.6% of the RESUMERS and NONRESUMERS (15.6%) have a firm size
between 500 million and 1 billion, while 38.1% of RESUMERS have a firm size between
1 billion and 5 billion, a little higher than that of MAINTAINERS (37.9%). For large size
firms, I also observe a lower proportion of the RESUMERS (9.3%) compared to the
NONRESUMERS (12.1%) in size between 5 billions and 10 billions. For firms with a

size between 10 billion and 50 billion, the RESUMERS have a higher proportion (12.7% vs 10.3%) compared to that of the NONRESUMERS. For super large firms, I also find that the RESUMERS have fewer super large firms than that of the NONRESUMERS (2.5% vs 3.1%). In summary, the distributions of the RESUMERS and NONRESUMERS are similar in terms of size, which also controls the size impact of the firm's decision to restart quarterly earnings guidance.

In terms of the size distribution for both the RESUMERS and NONRESUMERS in years from 2004 to 2008, I find a similar pattern with a concentration on the middle size firms in both groups. Since the study has an industry-year-quarter matched research design, I argue that the two groups as RESUMERS and NONRESUMERS have a similar distribution of the firm in size even in each year.

V. CHAPTER SUMMARY

This chapter presents the research design and research model. The basic research method is to compare two groups: STOPPERS and MAINTAINERS and RESUMERS and NONRESUMERS. Industry-year-matched research design provides more rigorous evidence since it controls many factors that are difficult to capture. The univariate and multivariate analysis are both used in the research to test the relevant hypothesis.

CHAPTER 5 RESULTS AND DISCUSSIONS

This dissertation asks the following research questions: what's the role of corporate governance on a firm's decision to stop quarterly earnings guidance, what's the impact of its discontinuity on a firm's investment behaviors and why a firm restarts quarterly earnings guidance? With regard to the first research question, this study proposes an association between corporate governance and a firm's decision to stop quarterly earnings guidance. Corporate governance is measured as board independency, institution ownership, types of institution ownership and CEOs compensation. Second, this study tests the impact of firm's decision on firm's long-term investment, measured by capital expenditures and R&D expenditures. With regard to the second research question, this study tests reasons for corporations to restart quarterly earnings guidance. I use both univariate and multivariate analysis to test the stated hypothesis in the previous chapters.

I. DESCRIPTIVE STATISTICS

1. Descriptive Statistics for the STOPPERS and MAINTAINERS

Table 7 presents the summary statistics on each variable for the 314 STOPPERS and 1296 MAINTAINERS. The board independence variable (OUTPCTG) has a minimum 0.6 for STOPPERS (0.63 for MAINTAINERS) and a maximum 0.9 for STOPPERS (0.9 for MAINTAINERS), and mean of 0.825 for STOPPERS (0.80 for MAINTAINERS), which presents the outside directors' proportion ranges from 60% to 90%, with the mean as about 80%. The data indicates that US firms have a high proportion of independent board directors, as a result from NYSE or NASDAQ's recommendation for board independency, especially under the guideline of SOX Act, which recommends that "the

board of directors of each listed company to consist of a majority of independent

directors".[39] INSTPCTG represents the institution ownership for a particular firm, which

ranges from 45% to over 92%, with a mean of 71%. As to the difference between

STOPPERS and MAINTAINERS, I find the MAINTAINERS have a slightly higher

institutional ownership compared to that of STOPPERS. As I disaggregate the institutions

ownership into three groups, TRANSITPCTG, QIXPCTG, and DEDPCTG, I find more

interesting patterns. TRANSITPCTG represents the ownership held by transient

institutions, that both STOPPERS and MAINTAINERS have low transient institution

ownership up to 14%. QIXPCTG and DEDPCTG represent the ownership by either

quasi-index institutions or dedicated institutions and we find that both types of

institutions have higher ownership levels. STOPPERS have in average, 34% quasi-index

institutional holdings and 37% dedicate institutional holdings, while MAINTAINERS, in

average have 30% quasi-index institutional holdings and 33% dedicated institutional

holdings. CASHPCTG refers to the cash proportion in CEO compensation. I find that

STOPPERS have a higher cash proportion (in average 51%) than that of

MAINTAINERS (in average 42%). For both STOPPERS and MAINTAINERS, I find a

higher proportion of cash compensation up to 99%, which reflects the CEO compensation

pattern in early 2001 when some of the firms still use cash compensation to reward

CEOs.

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[39]NYSE Listing Guide, Section 303.01(B)(2)(a); NASDAQ Market Listing Requirements Section
4310(c)(26)(B). NASD and NYSE Rulemaking: Relating to Corporate Governance, available at
http://www.sec.gov/rules/sro/34-48745.htm NYSE CG Rules 303A.04-.07, specifically, CG Rules
303A.04(a), -.05(a), -.06, -.07(b)

Table 7 also presents summary statistics for control variables for both STOPPERS and MAINTAINERS, including the performance variables (FTEPS and RETURNS), the management forecast variable (MGTBIAS), analyst forecast variable (DISP and ANALYST). Size variable (MB, MVE and TA) are also included. FTEPS and RETURNS indicate that STOPPERS have a lower future earnings performance (0.000 for STOPPERS and 0.001 for MAINTAINERS) and returns (0.01768 for STOPPERS and 0.07 for MAINTAINERS) than that of MAINTAINERS. The managers in STOPPERS firms have a higher management bias (-0.002, the management forecast is higher than the actual earnings) than that of MAINTAINERS (.000147, the management forecast is lower than the actual earnings). STOPPERS have on average 10 analysts following their firms while MAINTAINERS have more analysts (11 on average). For the size factors, I find that STOPPERS have a larger size compared to MAINTAINERS, with the average total assets 2 times larger than that of MAINTAINERS, which indicates that STOPPERS have a majority of big cap firms.

2. Descriptive Statistics of R&D and Capital Expenditure for the STOPPERS

Table 8 presents the summary statistics for STOPPERS (314 firms) with regard to the R & D expenditure and capital expenditure with respects to the total assets. Yt0 is the period before the stoppage event, while Yt+1 is 1 year after the stoppage event and Yt+2 is 2 years after the stoppage event. RDX and CAPX represent the R & D expenditure and capital expenditure in three periods. In year t0, STOPPERS have the R & D expenditure up to 15% of the total assets with the average R&D expenditure of 4%, while in one year after the stoppage event, we observe an increasing level of R& D expenditure up to 5.8% and this increasing pattern continues to 2 years after the stoppage event with an average

of 5.9% of R & D expenditure. Similar pattern can also be found in the capital expenditure. The average capital expenditure in one year before the stop event is 4.73 % while this level increases to 5.6%. However, we did not observe a significant increase in the year immediate follows the stop event, since the average capital expenditure is only 4.78%. LEV refers to the leverage level for the STOPPERS in the pre-stop period and in the post-stop period. Between yeart0 and yeart+1, we did not observe any changing pattern, since the average of leverage level of 25% for STOPPERS in year t0 is almost same as that in year t+1, however, we do observe a decline in year t+2, when the leverage level drops to 20% on average. SALE and GROWTH represent the funds available for the STOPPERS to invest in both R & D expenditure and capital expenditure. DED measures the dedicated institution holdings for STOPPERS in the pre-event period and post-event period. I find an increasing pattern for dedicated institutional holdings, which implies that when dedicated institutions increase their holdings, they might exercise their monitory power to the STOPPERS through their representation on the board so that the STOPPERS increases their R & D expenditures and capital expenditures. INDRDX and INDCAPX measure the average industry level of RD expenditure and capital expenditure. Both show that the average is higher for the STOPPERS in Y0, however, the average of INDRDX and INDCAPX becomes lower than that of the STOPEPRS in Yt+1, which indicates that the STOPPERS did increase RDX and CAPX in the post-stoppage period.

3. Descriptive Statistics for the RESUMERS and NONRESUMERS

Table 9 presents the summary statistics of each variable for RESUMERS and NONRESUMERS. The total sample is 342 firms while 118 firms are RESUMERS and 224 firms are NONRESUMERS. It is surprising to see that almost 30% of the firms

actually restarted quarterly earnings guidance. Three variables (PEPS, FTEPS and

RETURNS) measure the firm performance. PEPS refers to the difference in diluted EPS

from the four quarters in the pre-restart period to the eight quarters in the pre-restart and

FTEPS refers to the change of diluted EPS in the four quarters in the post-restart period

than in the four quarters in the pre-restart period. RETURNS measures the one year stock

return in the pre-restart period. For RESUMERS, we have 0.0044 earnings per share on

average in four quarters before they restarted while for NONRESUMERS, we have only

0.0017 earnings per share on average at the same time, which indicates that RESUMERS

have a higher earnings performance than NONRESUEMRS. We also find that

NONRESUMERS has a minimum of -0.2368 as averaged EPS while RESUMERS has a

minimum of 0.0028 ESP, which indicates no loss for all RESUMERS.   The future

realized earnings of RESUMERS is also higher than that of NONRESUMRS, since on

average of the RESUMERS mean EPS is 0.005 while that of NONRESUMERS is

-0.0028, which indicates that NONRESUMERS has a higher proportion of loss firms.

RESUMERS also have a higher market return than that of NONRESUMERS, since the

average 1-year abnormal market return is 16% for RESUMERS while the average same

period return for NONRESUMERS is only 10%. FERROR and DISP measure the

difficulty in earnings prediction for analysts. FERROR is the absolute forecast error

while DISP is the standard deviation of analyst forecasts. If the forecast is more difficult

to predict, we should observe a higher dispersion among analysts and a higher absolute

forecast error. The mean FERROR is 0.08 for RESUMERS and 0.12 for

NONRESUMERS, which indicates that RESUMERS has a smaller forecast error than

that of NONRESUMERS. The mean DISP for RESUMERS is 0.2 while the mean of

DISP for NONRESUMERS is 0.3, which indicates that earnings for RESUMERS is less difficult to predict that that of NONRESUMERS. We also find that FBIAS (forecast bias) is negative (-0.015) for RESUMERS and positive for NONRESUMERS (0.0257), which indicates that the forecast bias is higher for RESUMERS than for NONRESUMERS. Therefore, we should find a tendency to use earnings guidance to adjust market expectation. Furthermore, we find that CMB, change of the beat/meet analyst forecast frequency in the pre-restart period and in the post-restart period, is higher for RESUMERS than for NONRESUMERS, which indicates that the consequence of using earnings guidance to adjust market expectation, so that it is easier for RESUMERS to meet/beat analyst forecasts. CANALYST and CINST indicate the information demand from either analysts or institutions. Both variables indicate that the analysts following decreases after the stop event and the overall institution ownership decreases after the stop event. We find that the decrease level for analysts following is higher for RESUMERS, which implies that RESUMERS have the incentive to use earnings guidance to attract more analysts to follow their firms.

II. UNIVARIATE ANALYSIS ON THE STOP EVENT

1. Univariate Analysis on the Decision of Stopping

Table 10 presents the results from a univariate comparison of independent variables between MAINTAINERS and STOPPERS. OUTPCTG, CASHPCTG, INSTPCTG, TRANSITPCTG, QIXPCTG and DEDPCTG are corporate governance related variables. The mean comparison for all above variable indicates a significant difference between the STOPPERS and the MAINTAINERS. For example, the MAINTAINERS have a lower

value of OUTPCTG as 80% compared to that of the STOPPERS (82.5%). The 0.01% of

the difference is significant at 1% level (P value <0.001), which indicates that the

STOPPERS have more independent outside directors on board than that of the

MAINTAINERS. INSTPCTG measures overall institutional ownership while

TRANSITPCTG, QIXPCTG and DEDPCTG measure the ownership percentage held by

three kinds of institutions as transit, quasi-index and dedicated institutions. The mean

institutional ownership is 70% for the STOPPERS while 72% for the MAINTAINERS

and this difference between them as 0.01% is significant at 0.05% level. It indicates that

the MAINTAINERS have a higher institution ownership than the STOPPERS. However,

when we decompose the institutional ownership into thee categories, we find interesting

pattern. The MAINTAINERS have a low level of dedicate institutions (30%) and a

higher level of quasi-index institutions (37%) than the STOPPERS 33% and 34%

individually. It is an interesting finding, since, on average, the quasi-index institutions

hold 37% of the stocks of the MAINTAINERS while the dedicated institutions only hold

30% of the stock outstanding. On the contrary, the majority of the STOPPERS' stocks are

held by the dedicated institutions (33%), higher than held by the quasi-index institutions

(30%) on average. Both the differences of the mean values of QIXPCTG and DEDPCTG

for the STOPPERS and MAINTAINERS are significant at 1%, which implies that the

different patterns in the institutional holdings might associate with the decision to stop

quarterly earnings guidance. CASHPCTG indicates the cash proportion (cash and cash

bonus) of the CEO compensation for the STOPPERS and MAINTAINERS. The mean

cash proportion for the STOPPERS is 51% while that of the MAINTAINERS is 42%.

The mean difference as 8% is significant at 1%, which implies that the STOPPERS rely more on cash and cash bonus to reward CEOs than the MAINTAINERS.

MBPTN and FTEPS measure the earnings performance for both STOPPERS and MAINTAINERS in the pre-stop period and RETURNS is to measure the market performance. MBPTN counts the frequency for a firm to beat/ meet analyst forecast in four quarters before the stop event (since I matched the MAINTAINERS by the same year and same quarter, the stop event has the same year-quarter as the STOPPERS). FTEPS is the averaged 4 quarter difference of realized diluted EPS in the post-stop period and in the pre-stop period. Table 10 indicates the frequency distribution for the STOPPERS and MAINTAINERS. 30% of the MAINTAINERS beat/meet all analyst forecasts for straight four quarters, while only 17.2 % of the STOPPERS beat/meet analyst forecasts. About 28 % of the MAINTAINERS beat/meet analyst forecasts 3 times out of 4 quarters, while 27% of the STOPPERS did that. Only 7.6 % of the MAINTAINERS never beat/meet analyst forecasts while about 14.4% of the STOPPERS never beat/meet analyst forecasts. The differences in the frequency distribution for the STOPPERS and MAINTAINERS are significant for all beating/meeting or none beating/meeting analyst forecast. The T-test of FTEPS also indicates that the MAINTAINERS have higher earnings performance in the post-stop period than the STOPPERS, indicated by the STOPPERS' mean value of FTEPS as 0.000 vs the MAINTAINERS' mean value as 0.001. It implies that the MAINTAINERS have higher future EPS values than that of the STOPPERS in the post-stop period. From the stock's performance, we also identified that the mean value of RETURNS of the STOPPERS is significantly higher than that of the MAINTAINERS (7% vs 1%). It implies that on

average, the STOPPERS' one year abnormal return is only 1% while that of the
MAINTAINERS is 7%, therefore, the MAINTAINERS' stocks outperformed the
STOPPERS' stocks in the market.

FUTUREVAR and DISP measures the difficulty to predict future earnings variance
and the past earnings variance while MGTBIAS measures the optimism of managerial
forecasts. FUTUREVAR measures the earnings variation, calculated as the absolute
difference of the realized diluted earnings between the post-stop period and the pre-stop
period. DISP is the dispersion among analysts, measured by the standard deviation of the
analyst forecasts. The mean value of DISP for the STOPPERS (0.053) is higher than that
for the MAINTAINERS (0.0378) and the mean value of FUTUREVAR for the
STOPPERS (0.0566) is also higher than that of the MAINTAINERS (0.0152). Both
DISP and FUTUREVAR indicate that the STOPPERS' earnings vary to a larger extent
than that of the MAINTAINERS, which makes the earnings forecasts from analysts more
agreeable for the MAINTAINERS than for the STOPPERS. The mean value of
MGTBIAS is -0.002 for the STOPPERS and 0.001 for the MAINTAINERS, and the
difference is significant at 1% level. It implies that the managers of the STOPPERS are
more optimistic than that of the MAINTAINERS and previous studies show that the
market punishes the over-optimistic forecasts by the management, which might lead to a
discontinuity of quarterly earnings guidance.

ANALYSTS measures the number of analysts followings a particular firm. The
mean difference between the STOPPERS and the MAINTAINERS also exhibits a
significant difference, with the average numbers of analysts following STOPPERS are 10
while that of the MAINTAINERS is 11. This difference implies that due to fewer

analysts following the STOPPERS than THE MAINTAINERS, the STOPPERS have less information demand from the analysts, which might explain that the STOPPERS are more likely to stop quarterly earnings guidance due to less information demand. VOLATILITY measures the volatility of the stocks for the STOPPERS and the MAINTAINERS. Previous studies show that higher volatility of the stock price leads to issue more information for the managers, since more inside information from the management can adjust the unreasonable expectation prevail in the market so as to smooth the stock price. I find that the mean value of VOLATILITY is significantly lower for the STOPPERS that than of the MAINTAINERS at 1% level, which is similar to the previous study. Table 10 also presents the mean difference of LITIRISK for the STOPPERS and MAINTAINERS. I use industry classification to measure LITIRISK. When a firm belongs to a higher litigation risk industry, it takes the value of 1, otherwise, it takes 0. Industries that are viewed as a high litigation risk are bio-tech industry, computer industry, electronics industry and retail industry. 53% of the MAINTAINERS belong to a high litigation risk industry while only 32 % of the STOPPERS belong to a high litigation risk industry. This distribution pattern indicates that a firm in a high litigation risk industry tends not to stop quarterly earnings guidance to avoid litigation costs.

MB measures the market/book equity ratio, a proxy for the firm's growth opportunity. Empirical evidence shows that firms in a growth stage are more likely to voluntary disclosure inside information to the investors to attract their investment. I find that on average, the MAINTAINERS have a higher MB ratio than the STOPPERS and this finding is similar to previous studies. Interestingly, I also find that large firms are

more likely to stop quarterly earnings guidance. The potential explanation is that the small cap firms, unlike big cap firms, are more difficult to attract attentions from the analysts and face more pressure to liquidate their stock.

2. Univariate Analysis on the Impact of Stopping

Table 11 presents the univariate results for R & D expenditure and capital expenditure for year t+1 and year t+2 for the STOPPERS firms. Yt0 is the period before the stoppage event, while Yt+1 is 1 year after the stoppage event and Yt+2 is 2 years after the stoppage event. The mean RDX value in Yt0 is 0.0407 or 4.07%, while the mean RDX value for Yt+1 IS 0.0589 or 5.89%, increasing from Yt0 for 1.8%. The T-test shows that the difference between Yt0 and Yt+1 is significant (P value 0.007). Similar increasing pattern can also be found for Yt+2 and Yt0, with the increase of 0.019 or 1.9% (p value 0.002). For capital expenditures (CAPX), Table 10 also indicates that after stoppage event, the STOPPERS increase the capital expenditure. Yt0, the capital expenditure is 4.73% while in Yt+1 is 4.78%. This increasing pattern lasts in Yt+2 when CAPX is 5.62%. The T-test also indicates that the difference between Yt0 and Yt+1 and Yt+2 is of significance, by significant p value as 0.0301 and 0.0033.

Table 12 presents the industry distribution of the R& D expenditure of STOPPERS and MAINTAINERS for three years after the stop event, ranked by the level of R & D expenditure. The business services (Computer and Softeware, SIC code 73) has a highest R & D expenditure for about 11% and we do observe a lower level of STOPPERS of R & D expenditure than that of MAINTAINERS in year t0 when the STOPPERS stop quarterly earnings guidance. However, one year after the stop event, the R & D expenditure of the STOPPERS has the same level of that of the MAINTAINERS (11.3%

vs 11.3%) and 2 years after the stop event, the STOPPERS have a higher R & D expenditure (11.7%) than that of the MAINTAINERS(0.08%). Similar patterns also can be found in Transportation industry (SIC code 44), Communication Industry(SIC code 48), Electronics Industry (SIC 36).

III. UNIVARIATE ANALYSIS ON THE RESTART EVENT

Table 13 presents the univariate comparison between the RESUMERS and the Non-RESUMERS. Most of the variables are significant using T-test, expect for RETURNS and VOLATILITY. I use three measures to proxy for the performance argument as PEP, FTEPS and RETURNS. PEPS (changes in diluted EPS from 4 quarters to 8 quarters before the stop event), FTEPS (changes in diluted EPS from the 4 quarters after the event period to 4 quarters before the event period), and the market performance RETURNS is 12 month abnormal buying and holding returns with the equally weighted market index return. Previous studies have indicated a positive association between firm performance and the tendency to issue earnings forecast. In other words, if the past or future expected earnings are considered as good news, then a firm is more likely to issue or update a earnings forecast. Similar to the previous studies, I find that the means of PEPS and FTEPS of the RESUMERS (0.0044 and 0.0054) are significant higher than that of the NONRESUMERS (0.0017 and -0.0028) and the differences are significant at 1% level and at 5% level. Interestingly, I find that on average, the NONRESUMERS have a reduction of the EPS from the pre-restart period to the post-restart period, which implies that if the managers in the NONRESUMERS group predict earnings correctly, they foresee the declining pattern of the earnings performance, which leads to a longer silence period. FBIAS and CMB test the earnings expectation management hypothesis.

FBIAS measures the analyst forecast bias in the pre-restart period while CMB measures the consequence of managerial quarterly earnings guidance provision. CMB is calculated as the difference in the frequency of beating/meeting analyst forecast from the pre-restart period to the post-restart period. FBIAS has a negative mean value for the RESUMERS (-0.015) while a positive mean value for the NONRESUMERS (0.025). A negative value of FBIAS indicates that the mean of analyst forecasts are higher than the realized earnings while a positive value of FBIAS indicates that the mean of analyst forecasts are lower than the realized earnings. In other words, a negative value of FBIAS indicates a more optimistic analyst forecast while a positive value of FBIAS indicates a less optimistic analyst forecast. Since the RESUMERS have a negative mean value for FBIAS while the NONRESUMERS have a positive mean value, we can argue that the analysts of the RESUMERS are more optimistic biased in predicting future earnings than the NONRESUMERS, therefore, the RESUMERS are more likely to issue quarterly earnings guidance to adjust the unfavorable earnings expectations. Similarly, I find a significant difference in the changing pattern of beating/meeting analyst forecasts for the RESUMRES (75%) and NONRESUMERS (25%). Table 13 shows the frequency of a firm beats/meets analyst forecast in the pre-restart period (MBPTNEBFORE) and in the post-restart period (MBPTNAFTER). Only 5.9% of the RESUMERS failed to beat/meet any analysts forecast out of 4 quarters in the pre-restart period while this number decreases to 1.7 % in the post-restart period while 2.7% of the NONRESUMERS miss analyst forecast in 4 quarters and this number increases to 7.1% in the post-restart period. Similar pattern can find for firms in both RESUMERS and NONRESUMERS group that only meet/beat analyst forecast once in 4 quarters. In addition, 11% of the RESUMERS

beat/meat analyst forecast once in 4 quarters in the pre-restart period, and the number

decreases to 8.5% in the post-restart period. On the contrary, 12.5% of the

NONRESUMERS beat/meat analyst forecast once in 4 quarters in the pre-restart period,

and the number increases to 16.5 % in the post-restart period. For firms beat/meet analyst

forecasts 2 quarters out of 4 quarters, the RESUMERS group has 19.5 %, while the

NONRESUMERS has 24.6 %. After the restart event, this number increases to 24% for

the RESUMERS while this number decreases to 22% for the NONRESUMERS.

Furthermore, 32.2 % of the RESUMERS beat/meet analysts forecast 3 quarters out of 4

quarters in the pre-restart period and this trend remains constant in the post-restart period.

However, about 30.8% of the NONRESUMRES beat/meet analysts forecast 3 quarters

out of 4 quarters in the pre-restart period, but only 25 % of them still beat/meet analysts

forecast 3 quarters out of 4 quarters in the post-restart period. This changing pattern for

both RESUMRES and NONRESUMRES indicate the consequence of the managerial

earnings forecast to adjust the unrealistic analyst forecast so as to push down the market

expectation of the future earnings.

Table 13 also exhibits the univariate results for control variables. FERROR and DISP

are proxies for difficulties in predicting EPS in the pre-restart period for analysts and both

of them exhibit a significant difference between the RESUMERS and NONRESUMRES.

The mean absolute forecast error FERROR for RESUMERS is 0.08 while the mean

absolute forecast error for NONRESUMERS is 0.12, which implies that for analysts,

earnings for the RESUMERS are easier to predict. In addition, DISP measures the

difficulty in earnings prediction using the disagreement among the analysts. I find that the

mean value of DISP is higher for the NONRESUMERS (0.0374) than that for the

RESUMERS (0.0255). CANALYST and CINST measure the information demand from the analysts and institutions for the quarterly earnings guidance. CANALYST measures the changes of analysts following from the pre-stop period to the pre-restart period as to find the extent of declining analysts following on the decision to restart. CINST also measures the changes of overall institution ownership from the pre-stop period to the pre-restart period as to find the impact of the decreased institution ownership on the decision to restart. CINST displays a significant difference between the RESUMERS (0.0335, decreased 3.355%) and NONRESUMERS (0.01 decreased 1%). It shows that when institutional holding decreases, firms are more likely to restart to attract the institutional holdings. CANALYST also indicates that when the number of analysts following decreases, firms are more likely to restart quarterly earnings guidance, since the mean CANALYST is 3.22 for the RESUMERS and 2.56 for the NONRESUMERS at 5% level. No significant mean difference is found for market volatility at 10% level. The RESUMERS have a higher market/equity ratio (MB), indicating that more growth firms are the RESUMERS than Non-RESUMERS. LOGMVE and LOGTA also indicate that the RESUMERS might include more large sizes firms than Non-RESUMERS.

IV. MULTIVARIATE ANALYSIS ON THE STOP EVENT

1. Multivariate Analysis on the Decision to Stop

Table 15A and 15B present the regression results for different models. Model 1 to 5 tests corporate governance related variables. Specifically, Model 1 tests H1 of board independence. Model 2 tests H2 of institutional ownership. Model 3 tests H3 of types of institutional ownership such as quasi-index and dedicate institution. Model 4 tests H4 of

CEO compensation. Model 5 is the full model. Model 5 has the strongest results among all models, most variables (OUTPCTG, INSTPCTG, DEDPCTG, QIXPCTG, DEDDM*INSTPCTG, CASHPCTG, PESP, FTEPS, DISP, MGTBIAS, LITIRISK, LOGMVE) have strong and significant association with the decision to stop quarterly earnings guidance.

a. Board of Directors Characters and the Stop Decision

Table 15A (Model 1) and 12B (Model 5) show that the results of the association between board independency (OUTPCTG) and the likelihood to stop are similar to the previous models . Hypothesis 1 is strongly supported by a significant positive coefficient (2.1499, p value <0.001 in Model 1 and 2.4471, p value <.0001 in Model 5) of OUTPCTG. It indicates that firms with a more independent board (higher proportion of outside directors) are more likely to stop quarterly earnings guidance. This result implies that board of directors is concerned with the potential unintended consequence of managerial myopia. It is also the role of outside directors in light with the firm performance. Both MBPTN and PTEPS variables have negative coefficients (-0.4312, p value0.0009 and -8.5177, p value 0.0767) as to imply that when a firm's earnings performance is not comparable with industrial competitors, it is more likely to stop quarterly earnings guidance. The interpretation is that the outside directors might recognize the poor earnings performance as the costs of management myopia, hence to discontinue quarterly earnings guidance so as to shift the management focus on the long-term development of a firm. This finding is also supported by the quotations from several firms, stating that the stop decision is made in alliance with the board and the management.

b. Institution Ownership and the Stop Decision

Both Model 2 and Model 5 show the strong negative association between INSTPCTG and the likelihood to stop quarterly earnings guidance. Hypothesis 2 is supported by the negative coefficients of INSTPCTG in Model 2 (-0.516, p value 0.0446) and in Model 5 (-0.7177, p value 0.0072). In other words, a firm is less likely to stop when it has a higher institutional ownership. This result is similar to the findings from Bushee [1998, 2000] paper, indicating that institutions are attracted to the firms with higher disclosure levels, once they attracted, they are more likely to press the management to continue providing disclosure.

However, due to the heterogeneity among institutions, Bushee [1998, 2000] categorized institutions into transient institutions, quasi-index institutions and dedicated institutions and argued that due to their different nature, three types of institutions exhibit various holding patterns with respects to the changing level of the information environment. Based on Bushee's argument, I have developed Hypothesis 3, which argues that a firm is more (less) likely to discontinue quarterly earnings guidance when its ownership is held by its quasi-index (dedicate) institutions.   Model 3A, 3B, 3C and 5 display similar results. Model 3A uses the institutional ownership by dedicated institutions (DEDPCTG) as a proxy, while Model 3B uses the institutional ownership by quasi-index institutions (QIXPCTG) as a proxy. Model 3C uses the interaction between DEDD (a dummy variable takes 1 if DEDPCTG is higher than QIXPCTG, 0 otherwise) and INSTPCTG while Model 5 is a complete model.   Model 3A indicates a significantly positive coefficient (0.777, p value 0.0346) between the dedicate institutions holdings and the decision to stop, suggesting that dedicate institutions encourages the management to

abandon the quarterly earnings guidance. Model 3B indicates that a firm with a higher quasi-index institution(-1.5355, p value <.0001) is less likely to stop quarterly earnings guidance, which implies that the decision of stopping depends on the ownership of quasi-index institution, since they are more likely to reduce their holdings if the firm reduces its disclosure level.   Model 3C and 5 show a significant coefficient between the interaction of the dummy variable of DEDDM and the overall institution ownership (INSTPCTG)   (0.3061,   p value 0.0111 in Model 3C and 0.3001, p value 0.0141 in Model 5), which indicates that even though the higher institutional ownership (-0.6289, p value 0.0159 in Model 3C and -0.7177, P value 0.0072 in Model 5) tends to decrease the probability of stopping quarterly earnings guidance, nevertheless, if the dedicate institution has a majority of the share for a particular firm, it will increase the possibility of stopping quarterly earnings guidance. Interestingly, the combined coefficients (0.6289-0.3061=0.3228 in Model 3C and 0.7177- 0.3001=0.4176 in Model 5) are smaller than the coefficient of INSTPCTG in Model 2 (0.516), which suggests that the impact of institutional ownership is moderated by the dedicated institutional ownership, especially when the dedicated institutions have a higher ownership level than that of quasi-index institutions.

c.   CEOs Compensation and the Stop Decision

As to the association between CEO compensation structure and the likelihood to stop suggested by H4, Table 15A displays a significant positive association between CEO cash compensation percentage (0.51, p value <0.001 in Model 4 and 0.5312, p value <.0001 in Model 5) and the likelihood to stop, which indicate that firms with a higher CEO cash compensation are more likely to stop. This result can be interpreted using

Gong, Feng and Li's [2007] argument that board of directors use managerial forecast as a reliable signal of a manager's talent, therefore, when CEO issue optimistic earnings forecasts that failed to meet/beat, they will design a significant reduction in cash bonuses for CEOs, and the magnitude of bonus reduction increases with the extent of optimism in management earnings forecasts. In addition, they argue that the bonus reduction associated with forecast optimism is larger for firms exposed to higher litigation risk and firms held by more short-horizon shareholders. This argument is supported by significant coefficients of MGTBIAS across all models (for example, -15.679, p value 0.0017 in Model 5), which indicates that a firm is more likely to stop quarterly earnings guidance when the management's previous forecasts are over optimistic. Therefore, a firm with a higher cash proportion in CEO compensation is more likely to stop quarterly earnings guidance, especially when CEO cares about the huge reduction of his cash and cash bonus payouts when they miss their own predictions.

d. Control Variables and the Stop Decision

Table 15A and 15B presents regression results of control variables, which shows significant association between firm's decision to stop and firm's performance, prediction difficulty, demand from analysts, management prior forecast optimism, firm growth, litigation risk and firm size. In particular, negative coefficients of MBPTN in all models (for example, -0.4312, P Value 0.0009 in Model 5) indicate that a firm's decision to stop quarterly earnings guidance is negatively associated with firm past earnings performance. The same negative coefficients of FTEPS in all models (for example, -8.5177, P Value 0.0767 in Model 5) also implies that if the management predicts that future expected earnings are worse than the current period earnings, firms are more likely to stop

quarterly earnings guidance. Some may argue that when the firm experiences a bad news, they might delay the news for further interpretation, suggested by Graham [2005]'s survey that several interviewed CFOs argue that they delay bad news in order to further study and interpret the information, or in hopes that the firm's status will improve before the next required information release, perhaps saving the company the need to ever release the bad information (e.g., interest rates might rise before year-end, correcting a current imbalance in pension funding). However, given the long silence period of one year after the stop decision for any STOPPERS firm, we should exclude this possibility that a firm intentionally delay the bad news.

The insignificant coefficients of RETURNS across all models (-0.0943, p Value 0.40 in Model 5) indicate an insignificant association between a firm's stock return and its likelihood to stop quarterly earnings guidance. It can be explained by the correlation between RETURNS and MBPTN or between RETURNS and FTEPS, since the stock return for a particular firm is highly correlated with the firm's performance.

As to the earnings difficulty prediction variables, DISP displayed a significantly negative association with the likelihood to stop (1.3015, p value 0.0599 in Model 5). This negative association indicates that a firm is more likely to stop earnings guidance when it is more difficulty to predicate future earnings. Furthermore, FUTUREVAR also indicates a significant positive coefficient (0.1816, p value 0.1024 in Model 5). This finding is supported by the statement of the firms, such as Tweeter Home Entertainment, Microstrategy, Central Parking, Westpoint Systems, Bob Evans Farms, Penton Media, Int'l Flavors & Fragrance (See Figure 1). In addition, we should also hypothesize that when a firm's earnings become easier to predict, it might restart quarterly earnings

guidance. As to the prior forecast optimistic variable MGTBIAS, I find a significant negative coefficient as -15.679, P value 0.0017 in Model 5. This result indicates that a firm is more likely to stop if past forecasts are more optimistic.

Even though that previous studies such as Bhushan [1989a, b] and Lang and Lundholm [1996] argue that a potential positive association between the analyst following and the firm's tendency of disclosure, since voluntary disclosure lowers the cost of information acquisition for analysts and increases the amount of information available to analysts, I did not find significant association between ANALYST and likelihood to stop, indicated by an insignificantly negative coefficient (-0.0095, p value 0.2166 in Model 5). My interpretation is that this study is to examine the association between the stop decision and analyst following, not between the start decision and analyst forecast. Although it is possible that a firm with more analysts following has a higher demand for inside information from the analysts, it might use other channels to distribute the information, other than relying soly on quarterly earnings guidance. Besides, the analysts have sunk costs for following a particular firm, therefore, their bargaining power is not strong. Third, Regulation FD has prohibits the selective communication for any firm, therefore, the management can not communicate in a private way to any analyst, which reduces the benefits of selective communication.

From Model 1 to Model 5, I consistently find a negative association between the litigation risk and the likelihood to stop quarterly earnings guidance. For example, the complete model (Model 5) shows a significant negative coefficient of LITIRISK (-0.4542, p value <.0001). It indicates that firms in the high litigation risk industries are less likely to stop quarterly earnings guidance, which is supported by prior studies such as Skinner

[1996] that four industries, the bio-tech (SIC 2833-2836), computer hardware (SIC 3570-3577), computer software (SIC 7371-7379), electronics (SIC 3600-3674), and retail (SIC 5200-5961) industries have higher litigation risk than other industries as to higher frequency of earnings guidance.

Table 15A also indicates that the size variable LOGMVE has a significant positive coefficient (0.1995, P Value 0.0421), which shows that large firms are more likely to stop. This positive association is against Lev and Penman [1990] and Lang and Lundholm [1993]'s argument that large firms are more likely to disclose due the economics of scale to make earnings forecast preparation and dissembling less costly for large firms. This significant positive association between the size LOGMVE and the likelihood to stop shows that the association between size and the quarterly earnings guidance is negative. My interpretation is that for large firms, the cost of managerial myopia is more severe and adverse than that of small firms, which leads to a positive association between size and the likelihood to stop. This interpretation is supported by the quotation from many big firms such as AT & T, McDonalds, G.E. and so that since after Coco-cola's proclaim that they will stop earnings guidance, many firms follow its step in that they have identified the potential costs of managerial myopia. In addition, Brown and Kim [1993] argue that smaller firms are more likely to disclose to increase stock's liquidity and attract attentions from analysts. Therefore, when small firms start quarterly earnings guidance, they are less likely to stop due to the potential decreased interests from analysts and institutions.

Although Miller and Piotrosky [2000] argued that firms with higher market/book value are more likely to provide forecast to maintain the higher expectation of the market.

I did not find a significant association between MB and the likelihood to stop (coefficient -0.0158, p value 0.5154 in Model 5). My interpretation is that based on Chen et al (2005) and Houston et al (2007) argument that many STOPPERS are of poor performance, which already lowers the market expectation of the firms.

2. Multivariate Analysis on the Impact to Stop

a. Capital Expenditure and R&D Expenditure

Table 16A presents the regression results for R &D expenditure and capital expenditure after STOPPERS firms discontinue the quarterly earnings guidance practice. If Group is 1, it means that R & D (capital) expenditure is after the stop event, while group equals to 0, it means that R & D (capital) expenditure is before the stop event. The positive coefficient of GROUP for RDX in Yt+1(0.0099, p value 0.005) and in Yt+2 (0.01215, p value 0.0003) indicates that R & D expenditure did increase after the firm stops quarterly earnings guidance. Similar pattern for CAPX, the capital expenditure for Yt+1 and Yt+2. In year t+1, I found positive coefficient for GROUP as 0.008, (p value 0.0023) and in year t+2, I found positive coefficient as 0.04588 (p value <0.001).

Table 16B presents the regression results for the impact of stoppage decision on R& D expenditure and Capital Expenditure on the STOPPERS after STOPPERS firms discontinue the quarterly earnings guidance practice, using different sets of the control variables as FUNDS, TOBINQ and INDRDX/INDCAPX instead of BM. The positive coefficient of GROUP for RDX in Yt+1(0.009, p value 0.009) and in Yt+2 (0.003, p value 0.009) indicates that R & D expenditure of the STOPPERS did increase one year and two years after the firm stops quarterly earnings guidance. Similarly, I also find

significant association between the GROUP and the capital expenditure (CAPX) of Yt+1

and Yt+2 after the stoppage (0.003, p value 0.105) in year t+1 and year t+2 (0.003, p

value 0.083).

b. Control Variables and R&D Expenditure (Capital Expenditure)

Table 16A also presents association between R & D expenditure, capital expenditure,

and control variables. The control variables indicate two important factors for R& D

expenditures and capital expenditures. One is the growth opportunities and the other is

the free funds available for investing. For growth opportunities, I use BM and

GROWTEST to proxy. While BM has predicted negative association, GROWEST has

predicted to be positive. Regression results show that in both years, a negative coefficient

of BM (-0.04563, p value 0.0002 in Yt+1 and -0.02868, p value 0.0002 in Yt+2) indicates

that when firm has growth opportunity, it spends more on R & D expenditure. However,

the positive coefficient for GROWEST (0.0492, p value 0.0009) is only significant for

year t+1. As to the free funds available for investing, I use two variables as LEV and

SALES. LEV is an indicator for the leverage level of the firm, which implies that higher

leverage level, less spending on R & D or capital expenditure. SALES is an indicator of

the funds available, and it implies that a higher lever of SALES, a higher level of R & D

or capital expenditure. A negative significant coefficient for R & D expenditures in both

year t+1 and year t+2 (-0.02340, p value 0.0102 and -0.01749, p value 0.0357) supports

the predication. However, for capital expenditure, I did not find significant association

between LEV and CAPX. The association between SALES and R & D expenditure

(0.01041 in Yt+1and 0.00949 in Yt+2, p value <0.001) or capital expenditure (0.00779 in

Yt+1 and 0.00779 in Yt+2, p value <0.001) also indicates that when SALES increases,

the R & D or capital expenditure increases. As for the association between dedicated institution ownership and R & D expenditure or capital expenditure, I found positive coefficients for both years for both R & D expenditure (0.04078 p value0.0186 in Yt+1 and 0.02671, p value 0.0980 in Yt+2) or capital expenditure (0.0252 p value 0.0784 in Yt+1 and 0.02589 p value 0.0400 in Yt+2).

Table 16B also presents association between R & D expenditure, capital expenditure, and control variables using different control variables. The control variables indicate several important factors for R& D expenditures and capital expenditures including growth/investment opportunities, free funds available for investing, leverage level, institutional ownership and firm size. I use TOBINQ and GROWTHEST to proxy growth opportunities. Regression results show that in both years, a significant positive association between the TOBINQ and RDX (0.009, p value 0.000 in Yt+1 and 0.005, p value 0.010 in Yt+2) indicates that when a firm has identified a growth opportunity, it spends more on R & D expenditure. The association between GROWTHEST and RDX is not significant in Yt+1 for both years, same as an insignificant association between GROWTHEST and CAPX.

As to the free funds available for investment, I use FUNDS and SALES. Both measure the level of STOPPERS in Yt+1 and Yt0. FUNDS have significant positive coefficients for RDX in both two years, (0.035, p value 0.000 in Yt+1 and 0.033, p value 0.000 in Yt+2) and for CCAPX in Yt+1(0.019, p value .001 in Yt+1 and 0.008, p value 0.098 in Yt+2). SALES is an indicator of the funds available, and it implies that a higher lever of SALES, a higher level of R & D or capital expenditure. A positive significant coefficients for R & D expenditures in both year t+1 and year t+2 (0.004, p value 0.103

and 0.006, p value 0.097) supports the predication of RDX and same strong positive

association between SALES and CAPX (0.004, p value 0.084 inYt+1 and 0.005, p value

0.017) in Yt+2, indicates that when SALES increases, capital expenditure increases.

I also control for the industry level of the R & D expenditure (INDRDX) and capital

expenditure (INDCAPX) and predict a positive association between the INDRDX and

RDX and INDCAPX and RDX. I find very strong positive association for RDX (0.781, p

value 0.000 inYt+1 and 0.804, p value 0.000 in Yt+2) and for CAPX (0.871, p value

0.000 inYt+1 and 0.877, p value 0.000) in Yt+2. Overall, I did not find significant

association between LEV and RDX and CAPX, the only exception is in year t+2, I find

significant coefficient of LEV on RDX (-0.025, p value 0.053) in Yt+2. As for the

association between DED and R & D expenditure or capital expenditure, I find

significant coefficients for both years for R & D expenditures (0.005, p value 0.021

inYt+1 and 0.017, p value 0.060) in Yt+2. But I fail to find an association between the

DED and CAPX. As for the firm size, I find a significant positive association between

RDX and LOGMV (0.019, p value 0.000) and between CAPX and LOGMV in

Yt+1(0.006, p value 0.043), which implies that when a firm grows in size, it increases the

R & D expenditures.

c. Comparison of Capital Expenditure and R&D Expenditure on the STOPPERS and MAINTAINERS

Table 17 presents the regression results for the impact of stoppage decision on R& D

expenditure and Capital Expenditure on the STOPPERS and MAINTAINERS after

STOPPERS firms discontinue the quarterly earnings guidance practice (I matched the

MAINTAINERS by industry-year-quarter). I use the change level of the R & D

expenditure (CRDX) and capital expenditure(CCAPX) of STOPPERS and

MAINTAINERS, from one year after the stoppage to the period before the stoppage

(difference in Yt+1 and Yt0) and from two years from the stoppage to the period before

the stoppage(difference in Yt+2 and Yt0). Group is 1 represent the STOPPERS, while

group 0 represent the MAINTAINERS. The positive coefficient of GROUP for CRDX in

Yt+1(0.006, p value 0.043) and in Yt+2 (0.006, p value 0.0047) indicates that R & D

expenditure of the STOPPERS did increase one year and two years after the firm stops

quarterly earnings guidance, compared to that of the MAINTAINERS. I also find

significant association between the GROUP and the capital expenditure (CCAPX) of

Yt+1 and Yt+2 after the stoppage. I found insignificant positive coefficients (0.002, p

value 0.106) in year t+1 and year t+2 (0.001, p value 0.107).

d. Control Variables and R&D Expenditure (Capital Expenditure)

Table 17 also presents association between R & D expenditure, capital expenditure,

and control variables. The control variables indicate several important factors for R& D

expenditures and capital expenditures including growth/investment opportunities, free

funds available for investing, leverage level, institutional ownership and firm size. I use

CTOBINQ and CGROWTHEST to proxy growth opportunities. Theory have predicted a

positive association based on the argument that firms with a higher investment

opportunities are more likely to invest in R & D expenditure and capital expenditures.

Both CTOBINQ and CGROWTHEST measure the changes of TOBINQ and

GROWTHEST for the STOPPERS and the MAINTAINERS. Regression results show

that in both years, a significant positive association between the CTOBINQ and CRDX

(0.003, p value 0.0001 in Yt+1 and 0.003, p value 0.001 in Yt+2) indicates that when a

firm has identified a growth opportunity, it spends more on R & D expenditure. The association between CGROWTHEST and CRDX is only significant in $Yt+2$ (0.003, p value 0.000), but not in $Yt+1$. For the association between the investment opportunity and the capital expenditure, I only find significant coefficients in CGROWTH (0.003, p value 0.057 in $Yt+1$ and 0.004, p value 0.007 in $Yt+2$).

As to the free funds available for investment, I use CFUNDS and CSALES. Both measure the changes of the STOPPERS and MAINTAINERS between $Yt+1$ and $Yt0$ and between $Yt+2$ and $Yt0$. CFUNDS have significant positive coefficients for CRDX in both two years, (0.021, p value 0.000 in $Yt+1$ and 0.033, p value 0.000 in $Yt+2$) and is only significant for CCAPX in $Yt+1$(0.020, p value .106). SALES is an indicator of the funds available, and it implies that a higher lever of SALES, a higher level of R & D or capital expenditure. A positive significant coefficients for R & D expenditures in both year $t+1$ and year $t+2$ (0.018, p value 0.000 and 0.007, p value 0.000) supports the predication of CRDX and same strong positive association between CSALES and CCAPX (0.020, p value 0.000 in$Yt+1$ and 0.016, p value 0.000) in $Yt+2$, indicates that when CSALES increases, capital expenditure increases.

I did not find significant association between CLEV and CRDX. However, I did observe a significant positive association between CLEV and CCAPX (0.018, p value 0.002 in $Yt+1$ and 0.032, p value 0.000 in $Yt+2$). This significant positive association might be due to the purchase of fixed assets to be used as collaterals in debt issuing, therefore, more debts are used to purchase more fixed assets such as machineries, plants and equipments.

As for the association between dedicated institution ownership and R & D expenditure or capital expenditure, I failed to find any significant coefficients for both years for R & D expenditures or capital expenditures. As for the firm size, I find a significant positive association between CRDX and CLOGMV in both years (0.016, p value 0.027 and 0.009, p value 0.072), which implies that when a firm grows in size, it increases the R & D expenditures.

V. MULTIVARIATE ANALYSIS ON THE RESTART EVENT

1. Firm Performance and the Restart Decision

a.   Earnings Performance and the Restart Decision

Table 18 presents the logit regression results for the RESUMERS and NON-RESUMERS. Overall, all the explanatory variables have significant coefficients as expected from our hypothesis except the variable of RETURNS, VOLATILITY and MB. The significantly positive coefficient of PEPS (5.3005, P value 0.0823) and FTEPS (1.6208, p value 0.0261), indicate a positive association between the firms' earnings performance and the likelihood to restart, which support H5. This finding is similar to Lang and Lundholm [1993], Miller and Piotroski [2000], Miller [2002] and Chen et al. [2007] and Houston [2007]' studies that firms provide more disclosure subsequent to good earnings performance or in anticipation of improved future performance. However, a higher coefficient of PEPS indicates that the association between past earnings performance and the restart decision is stronger than that between the future earnings performance and the restart decision.

b.   Market Performance and the Restart Decision

Insignificant coefficient on RETURNS (0.2332, P value 0.2148) indicates that although firms want to disclose earnings guidance to promote the market perception of the firm, to raise the share price, when RETURNS has already reflected the earnings information, the impact of RETURNS on the decision to restart is less significant compared to that of earnings. Its implication is that when firms perform well in either operation performance or in market performance, firms are more likely to restart giving quarterly earnings guidance to disclose favorable information to reduce information asymmetry.

2. Earnings Expectations Management and the Restart Decision

Interestingly, we find that a positive association between the CMB and the dependent variable (0.6417, p value 0.0069), which indicates that the proportion of meet/beat analyst forecast after the management gives earnings guidance is higher for the RESUMERS than the NONRESUMERS. The significant positive coefficient shows that the management of the RESUMERS did use expectation management to adjust analyst expectation downwards so that they can beat/meet. In addition, when examining the expectation management, we found a significant negative association between optimistic analyst forecast (FBIAS) and the likelihood to restart (-37.8670, p value 0.0406), which shows that firms with a higher level of optimistic forecast, firms are more likely to restart quarterly earnings guidance to adjust the over-optimistic market expectations. This is particular true when the firms have a higher EPS in the pre-restart period, which makes it

more difficulty to beat/meet analyst forecasts and the management might resort to earnings expectations to adjust market expectations.

3. Control Variables and the Restart Decision

Both FERROR and DISP show significant negative coefficients (-30.7973, p value 0.0668 and -7.1301, p value 0.0156), which indicate that when the absolute value of analyst forecast error is higher, or the dispersions among analysts are higher, then firms are less likely to restart earnings guidance, since these two variables proxy for the difficulty to predict past EPS. The significant positive coefficient of CANALYST and CINST indicates that decreased analysts following and institutional ownership also motivates management to restart earnings guidance. Lang and Lundholm [1993] argue that the variability of the past return performance is likely to reflect the unpredictability of future performance and therefore proxy for the information asymmetry. Therefore, we predict a positive association between VOLATILITY and the likelihood to restart. However, we did not find significant association. We neither find an association between MB and the likelihood to restart. A positive significant coefficient of LOGMVE (0.0401, p value 0.0677) shows that large firms are more likely to restart.

VI. SENSITIVITY ANALYSIS

1. Sensitivity Analysis on the Decision to Stop

a. Alternative Measurement of the Stoppers and the Changers

The first robustness test that I used is to examine the impact of firms switching from quarterly earnings guidance to annual earnings guidance. Out of 314 firms, I identify 18

firms (CHANGERS/SWITCHERS) that stopped quarterly earnings guidance, but remained annual earnings guidance. Miller (2000) examines in three subgroups in terms of different earnings trend, increasing earnings, increasing earnings with an impended decline and decreasing earnings, which then shows that despite an impending downturn in earnings, the decline firms continue to increase disclosure. Although this increase in both total disclosure and forecasts is equivalent to increases made by gain firms, the decline firms provide predominately short-term forecasts, whereas the gain firms continue to provide predominately longer-term forecasts. This choice enables decline firms to focus on the current good news, while avoiding discussion of the longer-term decline. Such a disclosure pattern is consistent with managers providing disclosure in a strategic manner (similar to the phenomena documented in Schrand and Walther [1998]) or simply being uncertain of the longer-term future and thus focusing their forecasts on the more predictable short-term period. Based on his argument, the SWITCHERS' earnings patterns might be different from the STOPPERS for quarterly earnings; therefore, I test whether the pure STOPPERS for both annual and quarterly forecasts are similar. The results of the switchers and the pure STOPPERS are presented in Table 19. Overall, the results are similar to that including the changers, with more significant results. Table 19 presents the logic regression results for changers (switchers) and the MAINTAINERS, which shows that only institutions and types of the institutions are significant along with forecast dispersion and firm size. It shows that when firms move to annual forecasts, the overall institution has a negative attitude towards decreased quarterly earnings guidance, but the dedicate institutions are not affected by the shifting from quarterly forecasts to annual forecasts. Interestingly, we did not find significant

association between the past earnings performance and the change decision, which

indicates that the changers/switcher firms do not have poorer past earnings performance

compared to the maintainer firms. Panel 1 has similar results as main model 5.

b. Impact of Sarbanes-Oxley Act on the Stop Event

I also examine the impact of Sarbanes Oxley Act of 2002, which poses new

requirements of the management's responsibilities and the potential consequence, which

can change the management's forecast behavior. In particular, SOX Act requires the full

independence for three committees: Audit Committee, Compensation Committee and

Nomination Committee. The premise is for fully independence of Audit Committee is

that, if conflicting pressures and loyalties are stripped away as much as possible from

both the external auditors and the audit committee, these players may be bolder about

saying "no!" to management' s accounting policy choices and judgmental estimates.

Complete independence is also required of the members of the compensation committee,

with the hope that maybe such a group will be somewhat more likely to exercise real

oversight and control of executive compensation. Finally, complete independence is

required of the nominating committee, which recommends new director candidates. If

fully independent, this committee may be less likely to gravitate only toward director

candidates who, even if formally independent, are likely to accede to management's

wishes eve when doing so is unwise. Therefore, I partition the sample into two

sub-samples, to examine whether SOX act did affect the management's forecast behavior.

Table 20A and 20B presents the results using post-SOX sample and Pre-SOX sample.

Post-SOX sample composes 264 STOPPERS and 858 MAINTAINERS. Table 20B

presents results using Post-SOX data. Overall, significant coefficients of the performance

related variables MBPTN and FTEPS indicates that firms with poor performance are more likely to stop, which indicates that SOX Act did have a negative effect on the management's voluntary disclosures. The corporate governance related variables OUTPCTG, INSTPCTG and CASHPCT, DEDPCTG, QIXPCTG also indicate that board structure, ownership structure and CEO compensation are related to firms' decision of a transparency reporting. The management prior forecast attributes related variables such as MGTBIAS again support the hypothesis that the management with a poor history of meeting/beating his own forecasts considers prudent when issuing earnings guidance and the management with higher confidence to predict future earnings through consistent point estimate still continues giving earnings guidance. MBPTN, DISP, MGTBIAS and LITIRISK and firm size are significant similar to the main results.

Table 20A presents the regression results for sample firms before SOX Act. Pre-SOX Act sample composes 50 STOPPERS and 240 MAINTAINERS. Variables of corporate governance such as board independence, institutional ownership, types of institutional ownership and CEOs compensation are significant. MBPTN, DISP, MGTBIAS and LITIRISK and firm size are significant.

2. Sensitivity Analysis on the Decision to Restart

a. Role of R & D Expenditure on the Decision to Restart

Considering the managerial myopia argument, I also argue that differences might exist of the R & D expenditures and capital expenditures between the RESUMERS and NONRESUMERS. I use both univariate and regression method to identify the level of R

& D expenditure and capital expenditure of RESUMERS and NONRESUMERS in three years before the restart event.

Table 21 presents the univariate analysis of the R & D expenditures and capital expenditures for RESUMERS and NONRESUMERS firms in the prior-restart period, measured by the 1 year before, 2 years before and 3 years before the restart event. The mean RDX is 4.83% for RESUMERS while the average of RDX is 3.22% for NONRESUMRES in 1 year before the restart period. The significant t-test result (p value 0.036) indicates that the mean difference between RESUMERS and NONRESUMERS is significant different among two groups. I also find significant difference between RESUMRES and NONRESUEMRS in R & D expenditure in 2 years before the restart event, measured by RESUMERS' average of RDX is 4.59 % while that of NONRESUMERS is 3.48%. Even in 3 years before the restart event, I also observe the significant difference in the R & D expenditure, as the average RDX of RESUMERS is higher than that of NONRESUMERS (4.61% vs 3.24%, p value 0.069). The consistent higher level of R & D expenditure of RESUMERS over NONRESUMERS indicate that RESUMERS invest more in R & D, which in long term, leads to a higher accounting and market performance of RESUMERS than that of NONRESUMERS.

However, I failed to find the difference of the capital expenditure between RESUMERS and NONRESUMRS in three years prior to the restart event. Although in three years (Yt-3), two years (Yt-2), and one year (Yt-1) prior to the restart event, the difference exists, the difference is not significant. For example, 3 years before the restart event, RESUMERS do have a higher level of capital expenditure than that of NONRESUMERS (4.24% vs 3.77%). 2 years before the restart event, the RESUMERS

have almost same capital expenditure as the NONRESUMERS (4.05% vs 4.17%). In 1 year before the restart event, RRESUMERS have a lower level of capital expenditure than that of NONRESUMERS (3.92% vs 4.23%).

The regression analysis of the R & D expenditure and capital expenditure between the RESUMERS and NONRESUMERS is presented in Table 22A and 22B. Table 22A presents the result as to the different R & D expenditure levels for RESUMERS and NONRESUMERS in 1 year, 2 years and 3 years before the restart period. I use this multiply regression to test whether RESUMERS have a higher R & D expenditure than that of NONRESUMERS, which might lead to a higher accounting and market performance for the RESUMERS than the NONRESUMERS. The dependent variable RDX is the R & D expenditure in the prior-restart period. Group is 1 when a firm restarts quarterly earnings guidance (RESUMERS). Group is 0 when a firm does not restart quarterly earnings guidance (NONRESUMERS). The result of the multiply regression is significant for GROUP variable across three years before the restart event, (0.013, p value 0.059 in 1 year before, 0.005, p value 0.092 in 2 years before, 0.005, p value 0.064 in 3 years before the restart event). The significantly positive coefficients between GROUP and RDX indicate that RESUMERS have a higher R& D expenditure than that of NONRESUMERS, even controlling for other variables.

I also find significant association between the dependent variable RDX and other control variables. For instance, FUNDS measures the funds available for investing and is expected to have a positive association with R & D expenditure. Table 20A shows significant positive coefficients of FUNDS in three years before the restart event (0.046, p value 0.034 in Year t-1, 0.043, p value 0.094 in Year t-2, and 0.005, p value 0.078 in

Year t-3). Similarly, significant positive coefficients are identified for SALES in three years (0.019l, p value 0.000 in Year t-1, 0.019, p value 0.000 in Year t-2 and 0.018, p value 0.000 in Year t-3). I also find similar positive association between TOBINQ and RDX, indicated by positive coefficients in three years(0.021, p value 0.000 in Year t-1, 0.022, p value 0.000 in Year t-2, and 0.019, p value 0.000 in Year t-3). For the association between leverage level (LEV) and the R& D expenditure, I find that in year t-1 and t-3, the associations are significant negative(-0.042, p value 0.034 in Year t-1 and-0.024, p value 0.047 in Year t-3). In terms of firm size, I find a significant positive association between firm size and R & D expenditure in three years before the restart event (0.024, p value 0.000 in Year t-1, 0.021, p value 0.000 in Year t-2, and 0.021,p value 0.000 in Year t-3).

Table 22B presents the result as to the different capital expenditure levels for RESUMERS and NONRESUMERS (CAPX)in 1 year, 2 years and 3 years before the restart period. Similar to the univariate analyst presented in Table 21, I fail to find the association between the capital expenditure and the group type as RESUMERS and NONRESUMERS. The only significant association found in three years analysis is the association between SALES and CAPX, which shows that when sales increases, the firm increase the capital expenditure correspondently.

b. The Year Difference of the Decision to Restart

Table 23 displays the logit regression results for RESUMERS and NONRESUMERS from two sample periods, from 2004 to 2006 and from year 2007 to year 2008. The overall results are similar to the full sample results, except that results are

more significant in the period between 2004 and 2006. However, in the period between 2007 and 2008, I find that expectation management hypothesis becomes a primary motivation for firms to restart quarterly earnings guidance.

VII. CHAPTER SUMMARY

Overall, this chapter begins with the first research question about the impact of corporate governance on a firm's decision to stop quarterly earnings guidance. Both univariate analysis and multivariate analysis indicate that a firm is more likely to stop quarterly earnings guidance when it has higher level of board independency, a lower level of institutional ownership, a higher level of dedicated institutional ownership and a higher level of cash payments of CEO compensation. In addition, a firm is more likely to stop when the past earnings and future earnings are poor and earnings are difficult to predict. Furthermore, when the management is over optimistic and more uncertain of their predictions, they are more likely to stop earnings guidance. Second, this chapter also examines the impact of the stop decision on R & D expenditure and capital expenditure and both univariate and regression results suggest that when the firms stop quarterly earnings guidance, they increase the R & D or capital expenditure. It also implies that quarterly earnings guidance does have the cost of management myopia and by discontinuing this practice; the management shifts its focus on long term investments, which might leads to the firm performance in the long term. Third, it also examines the association between firm performance, expectations management and the decision to restart and finds that a firm is more likely to start when the past and future earnings are better compared to industry competitors, and a firm does use expectations management to adjust the unrealistic market expectation to meet/beat analyst forecasts.

CHAPTER 6 SUMMARY AND CONCLUSION

I. RESEARCH SUMMARY

Given the popularity of quarterly earnings guidance discontinuity in the past years, led by high profile firms such as Coco-Cola, MacDonalds, AT&T, and GE, this dissertation aims to provide timely evidence to this important phenomenon. This study is also motivated by an increasing awareness of the management short-term focus in the public and the followed institutional proposal to abandon quarterly earnings guidance. As a summary, it proposes and examines the following research questions: what's the impact of corporate governance on a firm's decision to stop quarterly earnings guidance and what's the impact of this stoppage event on a firm's capital and R & D investment and why a firm restarts providing quarterly earnings guidance after becoming silent.

Using an industry-year-quarter matched sample of 1610 firms from year 2001 to 2006, this study finds that that a firm is more likely to stop quarterly earnings guidance if the board is more independent, dedicate institutions ownership is higher, overall institution ownership is lower, and the level of cash proportion of CEOs compensation structure is higher, compared to a firm that does not stop. In addition, it also finds a firm is more likely to stop quarterly earnings guidance when both past and expected future earnings are poor, when expected future earnings are difficult to predict. Furthermore, this study also shows firms are more likely to stop quarterly earnings guidance when the management is over optimistic about their predictions and when it is in high litigation industry or has a large size.

Second, this study examines the impact of the quarterly earnings guidance cession on firm's capital expenditure and R&D expenditure and finds that STOPPERS have higher levels of capital expenditure and R & D expenditure in the subsequence years following the stop event. It implies that quarterly earnings guidance has adverse impact on firm's long term valuation investment.

Third, this study also proposes and examines the determinants for the stopping firms to resume quarterly earnings guidance using an industry-year-quarter matched sample of 342 firms from year 2004 to 2008, and finds that firms in the turnaround situations are more likely to resume quarterly earnings guidance, especially when the past four quarters earnings and expected future earnings become more positive. Secondly, firms are more likely to restart quarterly earnings guidance when the analyst forecast errors and the dispersions among analyst forecasts are smaller. Furthermore, this study finds that firms use expectation management to beat/meet analyst forecast by restarting quarterly earnings guidance, especially when the analyst forecast bias are larger before the firms resume the management forecast.

II. CONTRIBUTION AND IMPLICATION

Overall, this study extends and contributes to current literature of voluntary disclosure, corporate governance, analyst forecast, and the management's decision making. In particular, his paper has a unique contribution to bridge the literature of corporate governance and corporate disclosure of earnings guidance and to fill the gap when the quarterly earnings guidance has the unintended consequence as managerial myopia. Although several studies have shed lights on the impact of corporate governance

on management forecast behavior, no specific study has designed to examine the role of corporate governance on the management quarterly earnings guidance, especially with the unintended consequence as managerial myopia. By examining the role of board independency, institutional ownership structure, CEOs compensation structure on a firm's disclosure decision, this study extends the prior literature. Beyond the contribution to bridge the gap between corporate governance and disclosure patterns, this study also extends the previous literature of disclosure by providing additional evidence of the associations between a firm's performance and disclosure patterns, between analyst forecast attributes and disclosure patterns, between litigation risk and disclosure patterns and between the management forecast attributes and disclosure patterns, between forecast difficulty and disclosure patterns. Second, this study is among the first several studies to investigate the impact of the quarterly earnings guidance discontinuity on a firm's capital and R& D investment. Third, this study is the first study to examine the restarting phenomenon of quarterly earnings guidance. In terms of research design, this study contributes to the previous literature by providing a more comprehensive sample, a more specific research design of industry-year-quarter match to examine the phenomenon of both stoppage and restart.

III. LIMITATIONS OF STUDY

One limitation of this study is that in terms of corporate governance, it does not provide a comprehensive measurement. In particular, this study presents evidence with regard to board independency, institutional ownership, types of institution ownership and CEO compensation; it does not specifically exam other board characters such as CEO duality, board size, board meetings and board busyness. In addition, this study investigate

the impact of the stop event on R & D and capital expenditure, however, it does not examine the argument whether this stop event leads to the improvement of firm performance. Even though, it sheds light on the firm performance through the study of restart event, little is known as to   However, even though this dissertation suggests that management should have caution with quarterly earnings guidance, the pattern of restarting this practice indicates that the high demands of this practice due the complexity of US financial system, especially the information need from financial analysts.

IV. SUGGESTIONS FOR FUTURE RESEARCH

Future research might examine the impact of a firm's restart decision on the analyst forecast attributes since timely information from the management can facilitate analyst forecasts. In addition, it also can examine the market response on the restarting event, both in short term and long term horizon. Another interesting research might concentrate on the institutions response on the restart event. In particular, it can examine whether the restart event attracts more institutions to hold a firm and what's the changing pattern among institutions.

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APPENDIX A: FIGURES

Figure 1 List of the Corporations that Announce to Discontinue Quarterly or Annual Earnings Guidance in Public from 2002 to 2005

Firm	Announce Date	Reason Given	Firm	Announce Date	Reason Given
Novell	02/27/03	Difficulty to Predict	Leapfrog Enterprise	02/10/04	Difficulty to Predict
MEDCATH	02/26/03	Long Term Focus	Technitrol	12/12/02	Long Term Focus
Central Parking	02/14/03	Difficulty to Predict	Payless Shoesource	08/13/03	None
Haverty Furniture	02/14/03	Difficulty to Predict	WABTEC	01/12/04	None
Copart	09/17/03	Difficulty to Predict	CDW	04/15/03	Replace with Monthly Sales
Principle Financial Group	05/24/04	Long Term Focus	McDonald's	01/17/03	None
Guess	02/26/03	None	Haemodetics	04/23/03	Long-term focus
Astec Industries	04/01/03	Long Term Focus	Tweeter Home Entertainment	07/27/04	Difficulty to Predict
Calgon	02/07/03	Long Term Focus	HomeDepot	02/25/03	Long-term focus
Forest Oil	05/08/03	None	Consol Energy	01/27/05	Long-term focus
Westpoint Systems	02/11/03	Long Term Focus, Difficulty to Predict	Microstrategy	01/27/05	Difficulty to Predict, Long-term focus
Int'l Flavors & Fragrance	09/30/03	Difficulty to Predict	Penton Media	08/07/03	Difficulty to Predict
Bob Evans Farms	01/31/05	Difficulty to Predict	Action Performance	07/28/04	Difficulty to Predict

Figure 2 National Investor Relations Institute Survey (2003, 2005, 2006, 2007, 2008)

Year	% provide EPS Guidance	Annual/Qtr/Both	Discontinue of EPS Guidance	Among them:
2003 478 firms	77%(75% range) 9% point estimate	43% annually 75 % quarterly,	19% discontinue	27% lost analyst interest, 49% no impact
2005 527 firms	71%	41% annually 61% quarterly		
2006 654 firms	62 %	43% annually 52% quarterly	14% discontinue	47%management philosophy change 27 % industry trends 25%low earnings visibility
2007 752 firms	61%(77% EPS, 71% revenue)	48% annually 25% quarterly		
2008 832 firms	61.8%	48.2%annually 38.3% quarterly 5.6% selectively	28.2%	
	Future EPS Guidance	54.3% Reducing the frequency	5.7% Increasing the frequency	40.0% Discontinuing
	43.7% No changes can be attributed to discontinuing guidance	6.3% Increased stock price volatility,	6.3% Reduction in analyst coverage	18.7% Shift away from a short-term, quarter-to-quarter focus

Figure 3: Forecast Firms with Relation to All Firms (2001-2008) and Forecast Types as Annual and Quarter Forecasts (2001-2008)
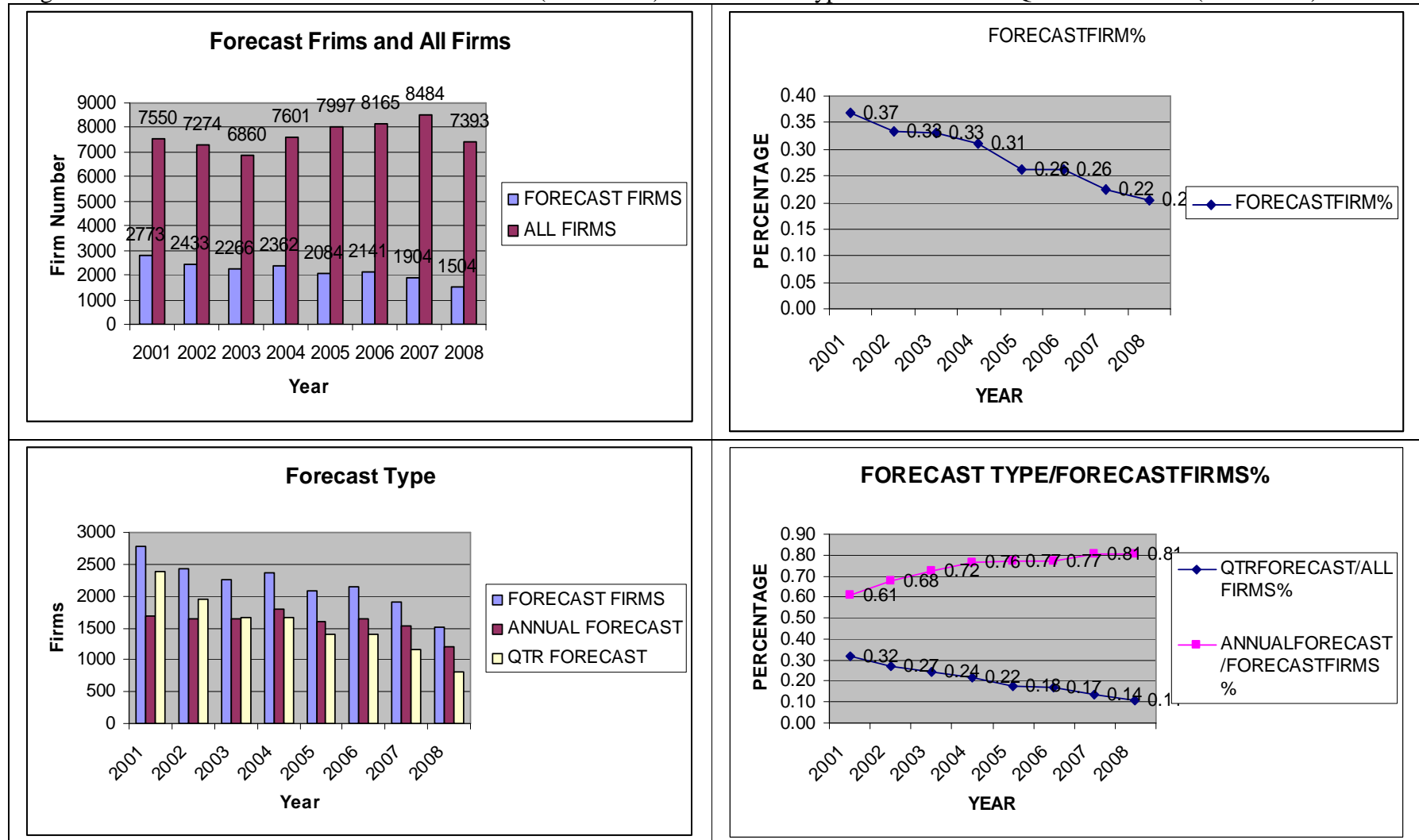
Figure 4 Industry and Year Distribution for MAINTAINERS and STOPPERS

Panel A: Industry Distribution for STOPPERS (including 18 CHANGERS to annual forecast)	Panel B: Year Distribution for STOPPERS (including 18 CHANGERS to annual forecast)
Panel C: Year Distribution for STOPPERS and MAINTAINERS (excluding 18 CHANGERS to annual forecast)	Panel D: Year Quarter Distribution for STOPPERS and MAINTAINERS(excluding 18 CHANGERS to annual forecast)
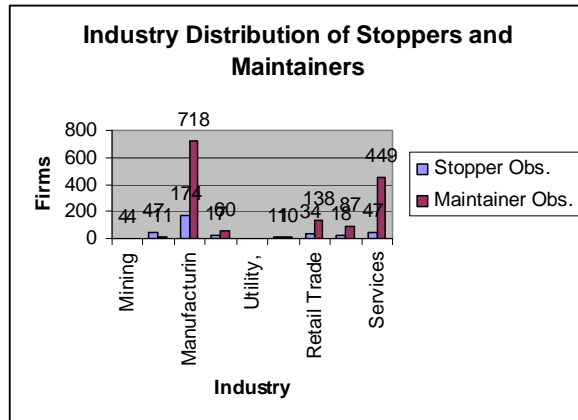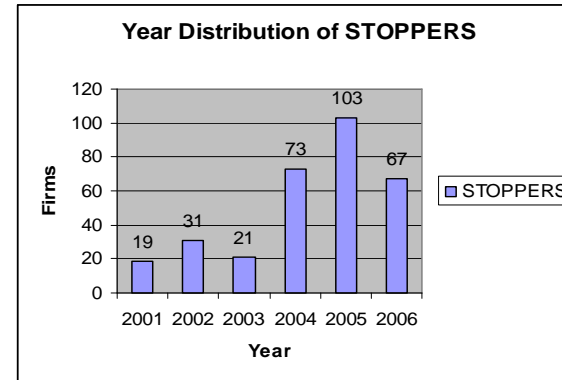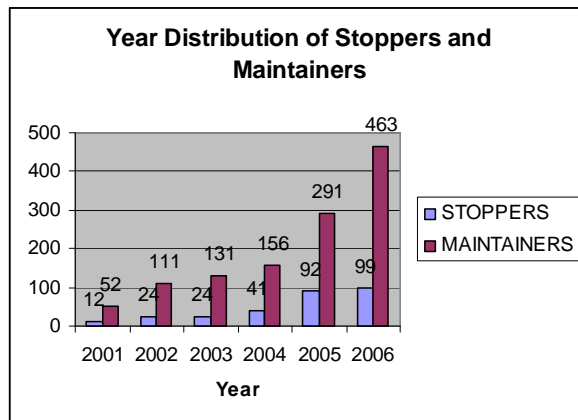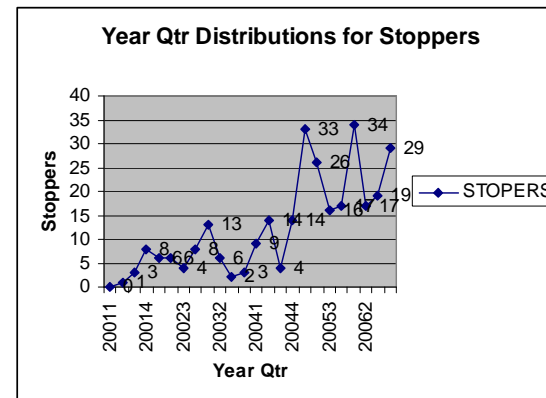
Figure 5 Year Distribution for RESUMERS and NONRESUMERS and Silence Period for RESUMERS

Panel 1 Silence Period (QTRs) = Between Stop and Restart Event				Panel 2 Silence Period (QTRs) = Between Stop and Restart Event	Panel 3 Year Distribution for RESUMERS and Non RESUMERS
QTRs	Firms	QTRs	Firms		
9	9	17	10		
10	10	18	8		
11	11	19	9		
12	15	20	8		
13	15	21	2		
14	13	23	1		
15	12	29	1		
16	14	Total	138		

Panel 2:

Silence Period (QTRs) = BETWEEN STOP AND RESUME Event

Firms vs Qtrs

Values: 9, 10, 11, 15, 15, 13, 12, 14, 10, 8, 9, 8, 2, 1, 1 (Series1)

Panel 3:

YEAR DISTRIBUTION FOR RESUMERS AND NONRESUME FIRMS

YEAR	RESUEMRS	NONRESUMERS
2004	18	34
2005	18	30
2006	32	53
2007	37	73
2008	13	34

Figure 6 Sample Selection Results for STOPPERS and MAINTAINERS

Data Selection Procedures For STOPPERS and MAINTAINERS	
Initial STOPPERS	693
Deduct firms without continuing business for 2 years. 240 firms	453
Deducted firms for missing values from Compustat, CRSP, Corporate Library, Edgar and Thomas Reuters Ownership Data 139 firms	314 (Final STOPPERS)
Deduct firms with annual forecast 18 firms	286 (Sensitivity Test)
Initial MAINTAINERS	1477
Deduct firms not matched by industry 50 firms	1427
Deduct firms not matched by Year and Quarter 86 firms	1341
Deducted firms for missing values from Compustat, CRSP, Corporate Library, Edgar and Thomas Reuters Ownership Data 45 firms	1296 (Final MAINTAINERS)
Deducted firms matched for STOPPERS with annual forecast 96firms	1200 firms(for Sensitivity Test)
Total Sample: 314 STOPPERS and 1296 MAINTAINERS	1610 Firms.

Figure 7 Sample Selection Results for RESUMERS and NONRESUMERS

Data Selection Procedures For RESUMERS and NONRESUMERS	
Initial RESUMERS	144 firms
Deducted firms for missing values from Compustat, CRSP. 12 firms	132 firms
Deduct firms without matching non RESUMERS in the same industry (based on SIC code) 14 firms	118 firms (Final RESUMERS)
Initial NonRESUMERS	309 firms
Deducted firms for missing values from Compustat, CRSP. 10 firms	290 firms
Deduct MAINTAINERS not matched by industry 28 firms	252 firms
Deduct MAINTAINERS not matched by year quarter 38 firms	224 firms (Final RESUMERS)
Total Sample: (118 RESUMERS and 224 NONRESUMERS)	342 firms.

APPENDIX B: TABLES

Table 1 Industry Year Analysis for STOPPERS and MAINTAINERS in 2001-2006
(Include CHANGERS (Switch Quarterly to Annual Forecasts) as 18 STOPPERS and 98 MAINTAINERS)

Panel 1: Industry Distribution by STOPPERS and MAINTAINERS (with annual forecast switchers 18 STOPPERS and 98 MAINTAINERS)(2001-2006)

Industry Classification	SIC Code	Stopper	Maintainer
Mining	10-14	4	4
Construction	15-17	47	11
Manufacturing	20-39	174	718
Transportation, Communications, Utility, Sanitary Services	40-49	17	60
Wholesale Trade	50-51	11	10
Retail Trade	52-59	34	138
Finance, Insurance, And Real Estate	60-67	18	87
Services	70-89	47	449

Panel 2: STOPPERS by Year Distribution(2001-2006) (with annual forecast switchers 18 STOPPERS and 98 MAINTAINERS)

YEAR	STOPPERS
2001	19
2002	31
2003	21
2004	73
2005	103
2006	67
Total	314

Panel 3: Year Quarter Analysis for STOPPERS and MAINTAINERS (without annual forecast switchers 18 STOPPERS and 98 MAINTAINERS)(2001-2006)

YEAR	QTR	S	M	YEAR	QTR	S	M
2001	1	0	0	2004	1	9	32
2001	2	1	1	2004	2	14	29
2001	3	3	2	2004	3	4	5
2001	4	8	49	2004	4	14	90
2002	1	6	62	2005	1	33	151
2002	2	6	28	2005	2	26	41
2002	3	4	12	2005	3	16	55
2002	4	8	9	2005	4	17	44
2003	1	13	78	2006	1	34	178
2003	2	6	24	2006	2	17	42
2003	3	2	12	2006	3	19	76
2003	4	3	17	2006	4	29	167

Panel 4: Year Quarter Analysis for STOPPERS and MAINTAINERS (2001-2006) (without annual forecast switchers 18 STOPPERS and 98 MAINTAINERS)

YEAR	STOPPERS	MAINTAINERS
2001	12	112
2002	24	111
2003	24	131
2004	41	156
2005	92	291
2006	99	463

Table 2 Industry Distribution for STOPPERS and MAINTAINERS, based on the SIC code ("/"means firms with annual forecast)

SIC CODE	INDUSTRY	STOPPERS 312	M 1298	SIC CODE	INDUSTRY	STOPPERS 312	M 1298
12	Coal Mining	1	2	45	Transportation By Air	3	2
13	Oil And Gas Extraction	3	12	48	Communications	4	15
15	Building Construction General Contractors And Operative Builders	4/2	15/5	49	Electric, Gas, And Sanitary Services	8	16
16	Heavy Construction Other Than Building Construction Contractors	3	2	50	Wholesale Trade-durable Goods	7	13
20	Food And Kindred Products	11	11	51	Wholesale Trade-non-durable Goods	4	2
22	Textile Mill Products	1	2	53	General Merchandise Stores	1	10
23	Apparel And Other Finished Products Made From Fabrics And Similar Materials	2	19	55	Automotive Dealers And Gasoline Service Stations	9	9
24	Lumber And Wood Products, Except Furniture	2	4	56	Apparel And Accessory Stores	5	49
25	Furniture And Fixtures	2	8	57	Home Furniture, Furnishings, And Equipment Stores	4	8
26	Paper And Allied Products	6	9	58	Eating And Drinking Places	8/1	41/11
27	Printing, Publishing, And Allied Industries	8	11	59	Miscellaneous Retail	7/2	30/5
28	Chemicals And Allied Products	26/4	49/11	60	Depository Institutions	6/1	17/5
29	Petroleum Refining And Related Industries	1	2	61	Non-depository Credit Institutions	1	1
30	Rubber And Miscellaneous Plastics Products	3	4	62	Security And Commodity Brokers, Dealers, Exchanges, And Services	4	4
32	Stone, Clay, Glass, And Concrete Products	2	2	63	Insurance Carriers	3	6
33	Primary Metal Industries	6	18	67	Holding And Other Investment Offices	4	45
34	Fabricated Metal Products, Except Machinery And Transportation Equipment	4/1	13/1	72	Personal Services	1	4
35	Industrial And Commercial Machinery And Computer Equipment	24/2	89/5	73	Business Services	28/2	376/11
36	Electronic And Other Electrical Equipment And Components, Except Computer Equipment	34/1	228/32	75	Automotive Repair, Services, And Parking	3	2
37	Transportation Equipment	14	8	79	Amusement And Recreation Services	2	4
38	Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical Goods; Watches And Clocks	26/2	81/10	80	Health Services	4	15
39	Miscellaneous Manufacturing Industries	2	4	82	Educational Services	1	3
42	Motor Freight Transportation And Warehousing	1	5	83	Social Services	1	1
44	Water Transportation	1	2	87	Engineering, Accounting, Research, Management, And Related Services	7	25

Table 3　Size Distribution of STOPPERS and MAINTAINERS (Size is Measured by Total Assets)

STOPPRES	<100million	<500million	<1billion	<5billion	<10billion	<50billion	>=50billion	total
2001	0/0.0%	2/10.5%	4/21.1%	10/52.6%	1/5.3%	2/10.5%	0/0.0%	19
2002	0/0.0%	3/9.7%	10/32.3%	8/25.8%	3/9.7%	7/22.6%	0/0.0%	31
2003	0/0.0%	6/28.6%	3/14.3%	7/33.3%	2/9.5%	2/9.5%	1/4.8%	21
2004	1/1.4%	20/27.4%	12/16.4%	28/38.4%	6/8.2%	6/8.2%	0/0.0%	73
2005	4/3.9%	20/19.4%	15/14.6%	43/41.7%	9/8.7%	8/7.8%	4/3.9%	103
2006	0/0.0%	11/16.4%	14/20.9%	27/40.3%	8/11.9%	7/10.4%	0/0.0%	67
TOTAL	5/1.6%	62/19.7%	58/18.5%	123/39.2%	29/9.2%	32/10.2%	5/1.6%	314
MAINTAINERS								
2001	9/8.0%	32/28.6%	23/20.5%	34/30.4%	3/2.7%	9/8.0%	2/1.8%	112
2002	14/11.0%	38/29.9%	24/18.9%	38/29.9%	2/1.6%	10/7.9%	1/0.8%	127
2003	6/7.1%	34/40.5%	17/20.2%	14/16.7%	6/7.1%	5/6.0%	2/2.4%	84
2004	28/9.6%	106/36.3%	53/18.2%	68/23.3%	15/5.1%	21/7.2%	1/0.3%	292
2005	22/5.8%	125/32.7%	74/19.4%	109/28.5%	24/6.3%	27/7.1%	1/0.3%	382
2006	21/7.0%	83/27.8%	56/18.7%	99/33.1%	14/4.7%	24/8.0%	2/0.7%	299
TOTAL	100/7.7%	418/32.3%	247/19.1%	362/27.9%	64/4.9%	96/7.4%	9/0.7%	1296

STOPPERS SIZE DISTRIBUTION

MAINTAINERS SIZE DISTRIBUTION
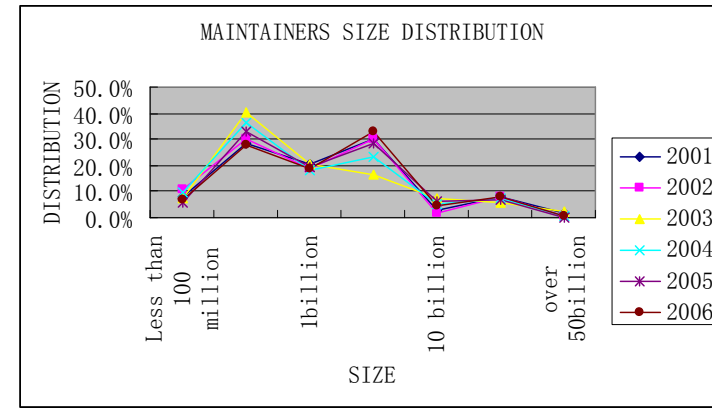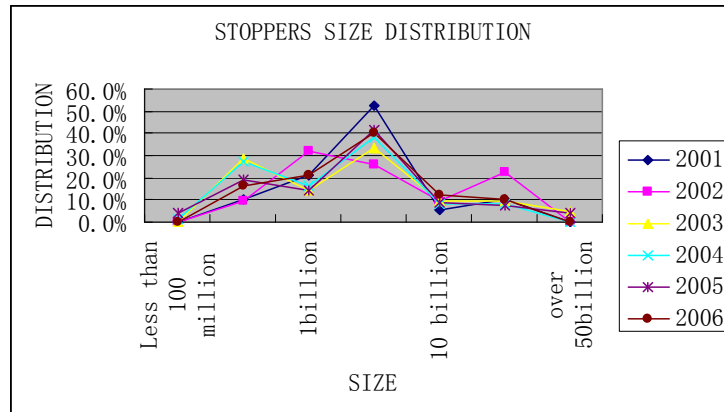
Table 4 Year Analysis for RESUMERS and NONRESUMERS

Panel 1: Year Distribution for RESUMERS(R) and NONRESUMERS(NON-R)		
YEAR	R	NON-R
2004	18	34
2005	18	30
2006	32	53
2007	37	73
2008	13	34
TOTAL	118	224

Panel 2: Year Quarter Distribution for RESUMERS(R) and NONRESUMERS(NON-R)

YEAR	QTR	R	NON-R	YEAR	QTR	R	NON-R
2004	1QTR	10	10	2006	3QTR	8	9
2004	2QTR	4	8	2006	4QTR	6	13
2004	3QTR	4	16	2007	1QTR	9	9
2005	1QTR	7	7	2007	2QTR	9	11
2005	2QTR	6	11	2007	3QTR	9	27
2005	3QTR	3	6	2007	4QTR	10	26
2005	4QTR	2	6	2008	1QTR	9	29
2006	1QTR	13	26	2008	2QTR	4	5
2006	2QTR	5	5		TOTAL	118	224

Table 5 Industry Analysis for RESUMERS and NONRESUMERS

SIC	INDUSTRY	RESUMERS Total: 118	NON-RESUMERS Total: 224	SIC	INDUSTRY	RESUMERS Total: 118	NON RESUMERS Total: 224
73	Business Services	14	31	13	Oil And Gas Extraction	1	2
36	Electronic And Other Electrical Equipment And Components, Except Computer Equipment	18	33	16	Heavy Construction Other Than Building Construction Contractors	1	2
55	Automotive Dealers And Gasoline Service Stations	3	15	28	Chemicals And Allied Products	13	14
37	Transportation Equipment	4	14	63	Insurance Carriers	1	2
38	Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical Goods; Watches And Clocks	10	20	80	Health Services	1	2
67	Holding And Other Investment Offices	2	12	15	Building Construction General Contractors And Operative Builders	1	1
35	Industrial And Commercial Machinery And Computer Equipment	12	21	23	Apparel And Other Finished Products Made From Fabrics And Similar Materials	1	1
59	Miscellaneous Retail	1	6	25	Furniture And Fixtures	1	1
26	Paper And Allied Products	2	6	39	Miscellaneous Manufacturing Industries	1	1
27	Printing, Publishing, And Allied Industries	2	6	78	Motion Pictures	1	1
58	Eating And Drinking Places	2	6	30	Rubber And Miscellaneous Plastics Products	1	1
33	Primary Metal Industries	2	4	34	Fabricated Metal Products, Except Machinery And Transportation Equipment	1	1
48	Communications	1	3	60	Depository Institutions	4	3
49	Electric, Gas, And Sanitary Services	4	6	87	Engineering, Accounting, Research, Management, And Related Services	2	3
51	Wholesale Trade-non-durable Goods	2	4	20	Food And Kindred Products	7	2

Table 6 Firm Size Analysis for RESUMERS and NONRESUMERS (Size is Measured by Total Assets)

RESUMERS	<100million	<500million	<1billion	<5billion	<10billion	<50billion	>= 50billion	TOTAL
2004	0/0.0%	3/16.7%	3/16.7%	7/38.9%	3/16.7%	2/11.1%	0/0.0%	18
2005	0/0.0%	5/27.8%	4/22.2%	4/22.2%	1/5.6%	4/22.2%	0/0.0%	18
2006	0/0.0%	9/28.1%	3/9.4%	13/40.6%	3/9.4%	4/12.5%	0/0.0%	32
2007	1/2.7%	8/21.6%	4/10.8%	17/45.9%	3/8.1%	2/5.4%	2/5.4%	37
2008	0/0.0%	2/15.4%	2/15.4%	4/30.8%	1/7.7%	3/23.1%	1/7.7%	13
TOTAL	1/0.8%	27/22.9%	16/13.6%	45/38.1%	11/9.3%	15/12.7%	3/2.5%	118
NON RESUMERS								
2004	0/0.0%	8/23.5%	7/20.6%	13/38.2%	3/8.8%	3/8.8%	0/0.0%	34
2005	0/0.0%	6/20.0%	8/26.7%	8/26.7%	3/10.0%	4/13.3%	1/3.3%	30
2006	1/1.9%	11/20.8%	6/11.3%	23/43.4%	7/13.2%	4/7.5%	1/1.9%	53
2007	2/2.7%	14/19.2%	9/12.3%	28/38.4%	9/12.3%	7/9.6%	4/5.5%	73
2008	0/0.0%	5/14.7%	5/14.7%	13/38.2%	5/14.7%	5/14.7%	1/2.9%	34
TOTAL	3/1.3%	44/19.6%	35/15.6%	85/37.9%	27/12.1%	23/10.3%	7/3.1%	224
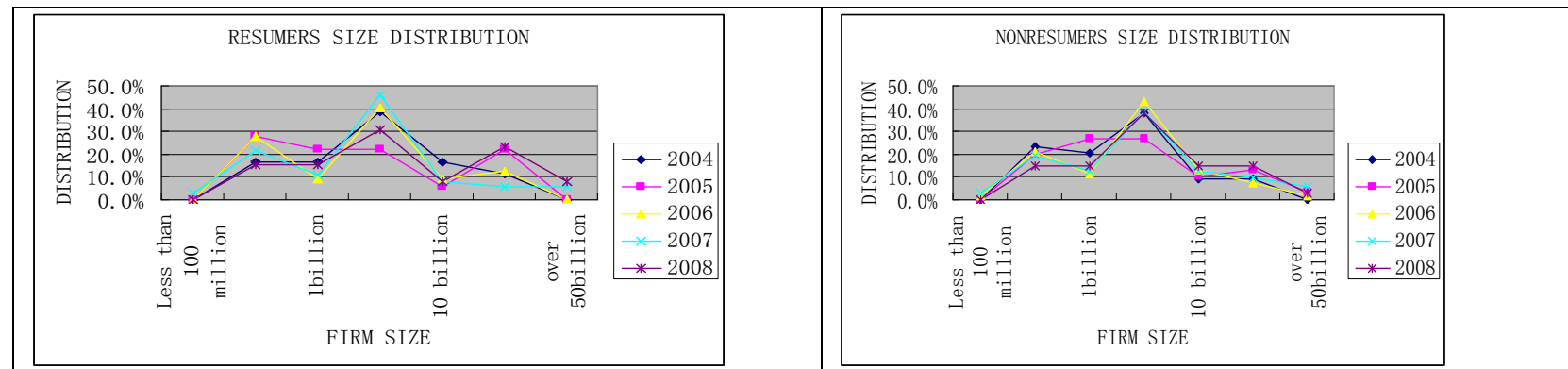
Table 7 Descriptive Summary Statistics on Each Variable of STOPPERS and MAINTAINERS on the Stop Decision

VARIABLE	STOPPERS 314 firms.				MAINTAINTERS 1296 firms.			
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
OUTPCTG	.6	.9	.825	.0796	.6364	.9091	.802281	.0738123
CASHPCTG	.07851	.99254	.51017	.31306	.07581	.90254	.42518	.31445
INSTPCTG	.0045	.9208	.7129	.1568	.0055	.90086	.7029	.146193
TRANSITPCTG	.0000	0.1191	0.0191	0.2428	.00000	.14104	.01906	.023498
QIXPCTG	0	.6179	.3493	.107465	0	.7605	.373	.1101
DEDPCTG	.00000000	.92023	.33045	.11520	.00377	.7826	.30	.0963
FTEPS	-.01818	.0178	0.000	.009	-.018181	.01782	0.001	.00747
RETURNS	-.570	.8888	.01768	.3760	-.5709	.8888	.07072	.38962
MGTBIAS	-.0172	.0213	-0.002	.007870	-.0172	.02130	.000147	.00770
DISP	0.0566	0.0152	0.053	0.0395	.00063499	.58967750	.03780184	.0467135
FUTUREVAR	-2.16	3.75	.0566	.45151	-1.91	1.91	.0152	.27796
VOLATILITY	.00398	.999754	0.1019	.07776	.041166	.26371	.1141	.0601
ANALYST	2.50	27.50	10.8236	6.48070	2.50	27.50	11.6295	7.27256
MB	1.01	7.8480	2.77	1.84	1.01939	7.8480	3.1018	1.841
MVE	66.89	194815.6	5346.80	16485.908	30.276	363172.75	5067.8125	16181.95
TA	79.314	468097.	7675.48	32705.71	16	674865	3952.96	20838.678

Variable Descriptions:
DEPENDENT VARIABLE:
STOPPERS=1   MAINTAINER=0
INDEPENDENT VARIABLES:
OUTPCTG = the fraction of nonexecutive to total directors (The sum of the number of outside directors and the number of outside-related directors.) before the stop event
INSTPCTG = the fraction of commons tock owned by qualified institutions before the stop event , calculated from the Thomson Reuters Ownership Data, averaged the pre-event four quarters (Percent of outstanding shares held by institutions.
DEDPCTG= the fraction of commons stock owned by dedicated institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by dedicated institution divided by total shares outstanding. The percentage is averaged the pre-event four quarters. Lists of dedicate institutions are obtained from Bushee (1998) paper.
QIXPCTG= the fraction of commons stock owned by quasi-index institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by quasi-index institution divided by total shares outstanding. The percentage is averaged the pre-event four quarters. Lists of Quasi-index institutions are obtained from Bushee (1998) paper.
TRANSITPCTG= the fraction of commons stock owned by transient institutions before the stop event, calculated from the Thomson Reuters Ownership Data, the sum of sole voting shares held by transient institution divided by total shares outstanding. The percentage is averaged the pre-event four quarters. Lists of transient institutions are obtained from Bushee (1998) paper.

DEDDM=dummy variable (0,1) for dedicate institution majority. If dedicate institution ownership is larger than 50% of the total institutional ownership, then it takes 1, else is takes 0.   I use the interaction of DEDDM and INSTPCT to examine the difference of institution types.

CASHPCTG= Proportion of the cash and cash equivalent annual incentive award, calculated by the sum of CEO annual bonus and annual base salary, divided by the total annual CEO compensation before the stop event. Total Annual CEO Compensation includes the sum of total annual compensation, plus all long-term payments, including restricted stock, the value realized from stock options, any LTIP payouts and all other compensation. CEOALLTOTALCOMPENSATION is the sum of total annual compensation, plus all long-term payments, including restricted stock, the value realized from stock options, any LTIP payouts and all other compensation.

FTEPS =The change in average diluted earnings per share (split-adjusted) from the four pre-event quarters before the stop event   to the four post-event quarters, deflated by the stock price at the end of the pre-event period.

MBPTN=The proportion of quarters in the four pre-event quarters before the stop event   for which a firm meets or beats the most recent analyst consensus compiled before earnings announcement. Its values are 0, 0.25, 0.5 and 1.

RETURNS=The buy-and-hold return (compounding monthly) in the one-year period that ends with the month of the earnings announcement for the quarter before the stop event , subtracted by the buy-and-hold return of the equal-weighted market index during the same period.

DISP=standard deviation of analyst forecasts included in the most recent consensus before earnings announcement, averaged in the four pre-event quarters before the stop event   and deflated by the stock price at the end of the pre-event period**.**

VOLATILITY= the standard deviation of monthly returns in the one-year period before the stop event, subtracted by the standard deviation of the equal-weighted market return in the same period.

FUTUREVAR= change, from the four pre-event to the four post-event quarters before the stop event , in the sum of the absolute difference between quarterly EPS and the EPS in the same quarter of the year before the pre-event period, deflated by the stock price at the end of the pre-event period.

MGTBIAS= Management forecast error, calculated by (Actual value- Management forecast value), in average four pre-event quarters before the stop event, deflated by the stock price at the beginning of the pre-event period. If the forecast is a close end, then it is the midpoint as the management forecast value. If it is open end, then to compare the actual value to the minimum or to the maximum. If it is qualitative then the forecast error is 0.

ANALYST=number of analysts whose forecasts are included in the most recent consensus before a firm's quarterly earnings announcement, averaged in the four pre-event quarters before the stop event

LITIRISK= the dummy variables 1 If the firm belongs to the four industries: the bio-tech (SIC 2833-2836), computer hardware (SIC 3570-3577), computer software (SIC 7371-7379), electronics (SIC 3600-3674), and retail (SIC 5200-5961) industries, respectively. 0 means otherwise.

MB=Ratio of the market value of equity before the stop event (Compustat DATA 14* DATA15)/book value of equity (Compustat data   59)**.**

LOGMVE= log transformation of Market Value of Equity

Table 8 Descriptive Summary Statistics on Each Variable related to R& D Expenditure and Capital Expenditure for STOPPERS

	N	Year=t0				Year=t+1				Year=t+2			
		Min	Max	Mean	Std. Dev	Min	Max	Mean	Std. Dev	Min	Max	Mean	Std. Dev
RDX	314	0.001	.15	.04	.047	.005	.150	.058	.047	.0000	.13	.059	.042
CAPX	314	0.005	.15	.0473	.038	.01	.16	.0478	.037	.010	.11	.056	.027
BM	314	.022	1.19	.487	.285	.022	1.19	.47	.268	.016	.92	.38	.220
LOGMV	314	6.61	12.23	9.18	.61	6.55	12.26	9.25	.64	6.26	12.14	9.43	.67
LEV	314	0	.70	.25	.19	.0	.70	.25	.20	.00	.86	.20	.19
SALE	314	.065	2.70	1.15	.79	.066	3.69	1.16	.795	.043	3.76	1.06	.72
GROWTH	314	-2.05	4.99	1.13	1.31	-2.0	4.01	1.22	1.44	-2.05	4.75	1.45	1.37
INDRDX	314	0.000	.1674	.052	.032	.006	.1589	.055	.0354	.0016	.194	. 070	.0305
INDCAPX	314	.0014	.1614	.043	.050	.005	.1574	.0415	.046	.008	.198	.0418	.041
DED	314	.130	.506	.33	.094	.130	.504	.342	.105	.08	.61	.35	.097

Variable Descriptions:

DEPENDENT VARIABLE:
RDX=R&D expenses (Compustat data #46) for the year scaled by total assets (data#6) at the beginning of the fiscal year.
CAPX=Capital expenditure (data#30) for the fiscal year scaled by the total assets (data#6) at the beginning of the year;

INDEPENDENT VARIABLES:
GROUP=1 if firms are in the post-event period, 0 if firms are in the prior-event period;
BM=Ratio of book value of equity(data#60) to market value of equity (data#25*data#199) at the end of the year;
GROWTH=Median of the analysts' long term growth forecast(annual) at the end of the year from First Call;
LOGMV=log of market value (data #25*data #199) at the end of the year
LEV=short term debt (data#34) plus long-term debt(data#9) over total assets (data#6) at the end of the fiscal year
DED=Percentage of the dedicated institutional holding at the end of the year from CDA/Spectrum Institutional Holding database.
SALES=Sales(data#12) for the fiscal year scaled by total assets (data#6) at the beginning of the year;
FUNDS= (Income before extraordinary items + R &D +Depreciation)/Sales
TOBINQ= (price *shares +book value of preferred stock +long-term debt+short-term debt)/assets
INDRDX/CAPX=Industry average RD expenditure and Capital Expenditure, calculated by the first 2 digits of SIC code

Table 9 Descriptive Summary Statistics on Each Variable related to RESUMERS and NONRESUMERS on the Restart Decision

	RESUMERS(118 FIRMS)				NONRESUMERS(224 FIRMS)			
	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation
PEPS	.00028	1. 5	0.0044	.0670	-.2368	1.105	0.0017	.0370
FTEPS	0. 00108	.1634	0.00541	.0325	-.3108	.634	-0.0028	.035
RETURNS	-.17	0.245	0.1678	.427	-.77	0.175	0.1032	.42
FERROR	.000044	.221	0.0818	.02217	.00563	.425	0.1282	.037
DISP	.0000	.4150	0.0255	.0407970	.0000	.567	0.0374	.049
VOLATALITY	.0423	.3455	0.0924	.0566	.0324	.3764	0.0952	.05336
FBIAS	-.227	.0749	-0.015	.01799	-.065	.0763	0.0257	.01859
CMB	-2	2	0.75	0.075	-2	2	0.25	0.065
CANALYST	1.80	10.50	3.2288	5.59334	2.80	8.80	2.5698	5. 334
CINST	-.0671	.0697	0.0335	.1055	-.071	.097	0.01	.1375
MKTV(Millions)	33.722	178108.25	5993.07	15813.71	55.433	208108.25	8832.07	15813.71
MB	.5658	32.66	3.5695	3.85	.7558	43.66	3.1073	3. 56

Variable Descriptions:
DEPENDENT VARIABLE:
RESUMERS=1   NONRESUMERS=0
INDEPENDENT VARIABLES:

OPERATIONAL PERFORMANCE RELATED VARIABLES:

PEPS = The change in diluted earnings per share (split-adjusted) from the same quarter in the prior year, averaged in the four pre-event quarters before the restart event and deflated by the stock price at the end of the pre-event period.

FTEPS =The change in average diluted earnings per share (split-adjusted) from the four pre-event quarters before the restart event to the four post-event quarters, deflated by the stock price at the end of the pre-event period.

MARKET PERFORMANCE RELATED VARIABLES:
RETURNS=The buy-and-hold return (compounding monthly) in the one-year period that ends with the month of the earnings announcement for the quarter the restart event, subtracted by the buy-and-hold return of the equal-weighted market index during the same period.

DIFFICULTY TO PREDICT VARIABLES:

DISP=standard deviation of analyst forecasts included in the most recent consensus before earnings announcement, averaged in the four pre-event quarters the restart event and deflated by the stock price at the end of the pre-event period**.**

FERROR= Absolute analyst forecast error, calculated by absolute value of the difference between Actual value and the mean analyst forecast in the most recent consensus, in average four pre-event quarters before   the restart event, deflated by the stock price at the end of the last quarter of pre-event period.

VOLATILITY= the standard deviation of monthly returns in the one-year period before the event quarter, subtracted by the standard deviation of the equal-weighted market return in the same period.

EXPECTATION MANAGEMENT RELATED VARIABLES

CMB=The change of frequency of meet/beat analyst forecast during the past 4 quarters before the restart event (**MBPTNBEFORE)** and the post 4 quarters after the starting event (**MBPTNAFTER**). **MBPTNBEFORE=**the proportion of quarters in the four pre-event quarters before the restart event for which a firm meets or beats the most recent analyst consensus compiled before earnings announcement. The threshold is 1 cent, from \$0.00<=SURPRISE ERROR <=\$0.01. Its values are 0, 0.25, 0.5 and 1. **MBPTNAFTER=**the proportion of quarters in the four post-event quarters after the restart event for which a firm meets or beats the most recent analyst consensus compiled before earnings announcement. The threshold is 1 cent, from \$0.00<=SURPRISE ERROR <=\$0.01. Its values are 0, 0.25, 0.5 and 1.

FBIAS=Biased analyst forecast error, calculated by value of the difference between Actual value and the mean analyst forecast in the most recent consensus, in average four pre-event quarters before the restart event, deflated by the stock price at the end of the last quarter of pre-event period.

Analyst /Institutional Demand Variables:

CANALYST=Change of the average analyst followings during the four quarters before the stop event and the average analyst follows during the four quarters before the restart event.

CINST= Change of the average institutional ownership during the four quarters before the stop event and the average institutional ownership during the four quarters before the restart event.

CONTROL VARIABLES:

MVE =the market value of equity at the beginning of the restart event quarter (in millions of dollars), calculated by the shares outstanding multiply the stock price at the beginning of the pre-event period (Compustat DATA 14* DATA15, adjusted by the stock split factor, (in millions of dollars).

LOGMVE= log transformation of Market Value of Equity

Table 10 Univariate Analysis for the Independent Variables between STOPPERS and MAINTAINERS, with or without changers

VARIABLE	STOPPERS /Changer 314 firms.	MAINTAINTERS 1296 firms.	DIFFERENCE	P VALUE	STOPPERS/ NoChanges 296 firms.	MAINTAINTERS 1200firms.	DIFFERENCE	P VALUE
OUTPCTG	0.8255	0.8023	0.0136	<.0001**	0.8249	0.8025	0.022	<.0001***
CASHPCTG	0.5102	0.4252	0.085	<.0001***	0.5148	0.4237	0.0912	<.0001***
INSTPCTG	0.7029	0.7192	0.0163	0.0035**	0.7177	0.7582	0.0305	0.0005***
TRANSITPCTG	0.019	0.0191	-0.0001	0.9428	0.0192	0.0187	59E-5	0.7043
QIXPCTG	0.3494	0.3733	-0.0239	0.0005***	0.3511	0.3727	-0.0216	0.0022***
DEDPCTG	0.3305	0.3086	0.022	0.0005***	0.3279	0.3084	0.019	0.0024***
MBPTN	0.5438	0.6414	-0.098	<.0001***	0.5368	0.6418	-0.105	<.0001***
FTEPS	0.00000001	0.001	-0.001	0.0068***	-32E-5	0.0009	-0.001	0.0135***
RETURNS	0.0177	0.0707	-0.053	0.0295**	0.0194	0.067	-0.048	0.0617**
MGTBIAS	-0.002	0.0001	-0.002	<.0001***	-0.002	0.0001	-0.002	<.0001***
DISP	0.053	0.0378	0.0152	<.0001***	0.0495	0.0384	0.011	0.0007***
FUTUREVAR	0.0566	0.0152	0.041	0.0395***	0.05	0.0128	-0.037	0.0533*
VOLATILITY	0.1019	0.1138	-0.0119	0.0009***	0.1423	0.1910	-0.0487	0.0015***
ANALYST	10.824	11.629	-0.806	0.0724**	10.641	11.475	-0.834	0.0736**
LITIRISK	0.3185	0.5617	-0.2433	<.0001***	0.3074	0.5492	-0.2417	<.0001***
MB	2.7727	3.103	-0.33	0.0047***	2.7132	3.0737	-0.36	0.0028***
LOGMVE	9.1835	9.105	0.0785	0.0313**	9.1705	9.0982	0.0723	0.0649**

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

	MBPTN			
	MAINTAINERS 1296	%	STOPPERS 314	%
0	112	7.6	42	14.4
0.25	181	14.0	59	18.8
0.5	259	20.0	69	22.0
0.75	350	28.0	90	27.7
1	394	30.4	54	17.2

	LITIRISK			
	MAINTAINERS 1296	%	STOPPERS 314	%
0	568	43.7	210	67.7
1	728	56.3	104	32.3

Table 11 Univariate Analysis of the R & D expenditure and Capital Expenditure of STOPPERS.
(Yt0 is the period before the stoppage and Yt+1 is 1 year after the stoppage and yt+2 is 2 years after the stoppage)

	Year=t0	Year=t+1			Year=t+2		
	Mean (SE)	Mean (SE)	DIFF.	PVALUE	Mean (SE)	DIFF.	PVALUE
RDX	0.0407 (0.0027)	0.0589 (0.0026)	.018	0.0007***	0.0595 (0.0027)	0.019	0.00202***
CAPX	0.0473 (0.0021)	0.0478 (0.0018)	0.006	0.0301**	0.0562 (0.0021)	0.189	0.0033**
BM	.487 (.285)	.47 (.268)	-0.17	0.0003***	.38 (.220)	-0.107	0.0005***
LOGMV	9.18 (.61)	9.25 (.64)	0.07	0.0434**	9.43 (.67)	0.25	0.0467**
LEV	.25 (.19)	.25 (.20)	0	0.3498	.20 (.19)	-0.05	0.5466
SALE	1.15 (.79)	1.16 (.795)	0.01	<.0001***	1.06 (.72)	-0.09	<.0001***
GROWTHEST	1.13 (1.31)	1.22 (1.44)	0.09	0.6664	1.45 (1.37)	0.32	0.6222
FUNDS	.1284 (.0273)	.1733 (.0147)	0.0449	0.015***	.2254 (.0201)	.097	.004***
TOBINQ	1.75 (.1066)	1.83 (.0996)	0.1458	.575	1.8588 (.102)	.1016	.49
INDRDX	.05205 (.002627)	.05564 (.002671)	.01253	. 042 ***	. 07012 (.002629)	.0181	.000***
INDCAPX	.04349 (.003438)	.04158 (.003092)	.01806	.650	.04181 (.002956)	.001676	.712
DED	.33 (.094)	.342 (.105)	0.012	0.0844*	.35 (.097)	0.02	0.0924*

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

Table 12 List of Industry Distribution of R & D Expenditure of STOPPERS and MAINTAINERS

SIC	Yeart0			Year t+1			Year t+2		
	Industry R& D (%)	STOPPERS R& D (%)	MAINTAINERS R& D (%)	Industry R& D (%)	STOPPERS R& D (%)	MAINTAINERS R& D (%)	Industry R& D (%)	STOPPERS R& D (%)	MAINTAINERS R& D (%)
73	0.1174	0.1055	0.1180	0.1131	0.1129	0.1131	0.1157	0.1175	0.0852
44	0.1521	0.1477	0.1609	0.1185	0.1296	0.1080	0.0949	0.1079	0.0734
48	0.0701	0.0888	0.0773	0.0821	0.1233	0.0957	0.0721	0.0731	0.0765
38	0.0874	0.0876	0.0874	0.0929	0.1095	0.0894	0.1028	0.1044	0.1031
36	0.1028	0.0774	0.1050	0.1037	0.0948	0.1045	0.1137	0.1195	0.0950
35	0.0778	0.0732	0.0787	0.0745	0.0752	0.0783	0.0833	0.0850	0.0670
33	0.0674	0.0236	0.0732	0.0648	0.0659	0.0673	0.0775	0.0862	0.0830

List of Industry: 73 Business Services (Computer and Software)

        44 Transportation

        48 Communications

        38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches

        33 Primary Metal Industries

        35   Industrial and Commercial Machinery

        36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment

Table 13 Univariate Analysis for the Independent Variables between RESUMERS and NONRESUMERS

Variable	RESUMERS Obs: 118	NONRESUMERS Obs: 224	P value
PEPS	0.0044	0.0017	<.0001***
FTEPS	0.00541	-0.0028	0.0282**
RETURNS	0.1678	0.1032	0.1700
VOLATILITY	0.0924	0.0952	0.6568
FERROR	0.0818	0.1282	0.0582**
FBIAS	-0.015	0.0257	0.0515**
DISP	0.0255	0.0374	0.0076***
CMB	0.75	0.25	<0.001***
CANALYST	3.2288	2.5698	0.0503**
CINST	0.0335	0.01	0.0563**
MB	3.5695	3.1073	0.1092*
LOGMVE	20.744	19.837	0.0262**
LOGTA	20.6	19.852	0.0712*

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

	LOSSPTN				MBPTNEBFORE				MBPTNAFTER			
	RESUMERS	%	Non RESUMERS	%	RESUMERS	%	Non RESUMERS	%	RESUMERS	%	Non RESUMERS	%
0	87	73.7	162	72.3	7	5.9	6	2.7	2	1.7	16	7.1
0.25	8	6.8	22	9.8	13	11.0	28	12.5	10	8.5	37	16.5
0.5	8	6.8	10	4.5	23	19.5	55	24.6	29	24.6	56	22.0
0.75	6	6.8	14	6.3	38	32.2	69	30.8	39	33.1	52	25.0
1	9	7.6	16	7.1	37	31.4	66	29.5	38	32.2	63	28.1

Table 14 Correlations Between Each Variable for the Stop Decision for the STOPPERS and MAINTAINERS.

	GROUP	OUT PCTG	INST PCT	CASH PCTG	FTEPS	MBPTN	RET URN	MGT BIAS	DISP	VOLATI LITY	ANALY ST	LITIRISK	MB	LOG MVE
GROUP	1	.067(**)	.051(*)	.10(**)	-.06(**)	-.1(**)	-.05(*)	-.1(**)	.06(*)	-.07(**	-.049	-.19(**)	-.06(**	.049
OUTPCTG	.067(**)	1	.026	-.061(*)	.015	.015	.022	-.001	-.030	-.11**	.069(**)	-.086(**)	-.016	.15(**)
INSTPCT	.051(*)	.026	1	.06(**)	-.06(*)	.018	.017	-.05(*)	-.07**)	-.09**	-.031	-.102(**)	-.028	.041
CASHPCTG	.103(**)	-.061(*)	.067(**)	1	-.05(*)	-.12 (**)	-.11 (**)	-.025	.08(**)	.14(**)	-.07(**)	.006	-.11(**)	-.10(**)
FTEPS	-.069(**)	.015	-.061(*)	-.05(*)	1	.036	.128(**)	.06(**)	.038	-.012	-.024	.041	.06 (**)	-.037
MBPTN	-.119(**)	.015	.018	-.12(**)	.036	1	.35(**)	.11(**)	-.41(**)	-.105**	.049	-.009	.204(**)	.18(**)
RETURN	-.051(*)	.022	.017	-.11(**)	.12(**)	.357(**)	1	.015	-.28**)	-.15**	-.07(**)	-.078(**)	.339(**)	.14(**)
MGTBIAS	-.101(**)	-.001	-.050(*)	-.025	.065(**)	.118(**)	.015	1	-.05(*)	.118(**	-.07(**)	-.003	.024	-.0(*)
DISP	.064(*)	-.030	-.073(**)	.08(**)	.038	-.41**)	-.28**)	-.05(*)	1	.37(**	-.11(**)	.070(**)	-.24**)	-.33(**)
VOLE	-.078(**)	-.110(**)	-.097(**)	.14(**)	-.012	-.10(**)	-.15 (**)	.1 (**)	.3(**)	1	-.07(**)	.240(**)	.003	-.39(**)
ANALYST	-.049	.069(**)	-.031	-.07(**)	-.024	.049	-.07**)	-.07**)	-.11**)	-.075**	1	.272(**)	.171(**)	.59(**)
LITIRISK	-.190(**)	-.086(**)	-.102(**)	.006	.041	-.009	-.078**	-.003	.07 (**)	.240(**	.272(**)	1	.093(**)	-.09(**)
MB	-.068(**)	-.016	-.028	-.11(**)	.06(**)	.204(**)	.339(**)	.024	-.24**)	.003	.171(**)	.093(**)	1	.30(**)
LOGMVE	.049	.151(**)	.041	-.10(**)	-.037	.187(**)	.147(**)	-.05(*)	-.33**)	-.39**	.593(**)	-.094(**)	.304(**)	1

*** P-value   is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). *   P-Value is significant at the 0.10 level (2-tailed).

Table 15A Logit Regression Analysis for STOPPERS and MAINTAINERS (1):

Model 1:
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 OUTPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 2:
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 INSTPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

Model 4:
$$\Pr obablity(stoppers = 1) = \beta_0 + \beta_1 CASHPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOG(MVE) + \varepsilon$$

S(314) M(1296)	SIGN	Model 1 Coeff. (SE)	P Value	Model 2 Coeff. (SE)	P Value	Model 4 Coeff. (SE)	P Value/
INTERCEPT	?	-3.7563 (0.9398)	0.001***	-1.820(0.85)	0.0335 **	-2.2326 (0.8549)	0.009***
OUTPCTG	+/-	2.1499 (0.5036)	<.0001***				
CASHPCT	+					0.51(0.1222)	<.0001***
INSTPCTG	-			-0.516(0.257)	0.0446 **		
MBPTN	-	-0.4868 (0.127)	0.0001***	-0.483(0.127)	0.0002***	-0.46(0.1281)	0.0003***
FTEPS	-	-7.58 (4.7347)	0.1092*	-7.916(4.722)	0.0937*	-6.80(4.7764)	0.1545
RETURN	-	-0.1426 (0.116)	0.2201	-0.130(0.115)	0.2586	-0.10 (0.1167)	0.3632
MGTBIAS	-	-15.8(4.9272)	0.0013***	-16.38(4.917)	0.0009***	-15.13(4.9376)	0.0022***
FUTUREVAR	+	0.1684(0.1094)	0.1237	0.172(0.108)	0.1140	0.1947(0.1092)	0.0745
DISP	+	0.9408 (0.6745)	0.1630	1.1323(0.672)	0.0923*	1.226 (0.6769)	0.0701***
VOLATILITY	-	-0.5169 (0.77)	0.5055	-0.73(0.7775)	0.3452	-1.07 (0.7934)	0.1745
ANALYST	-	-0.0111(0.0076)	0.1430	-0.009(0.007)	0.1906	-0.008(0.0076)	0.2854
LITIRISK	-	-0.4720 (0.085)	<.0001***	-0.485(0.085)	<.0001***	-0.48 (0.0859)	<.0001***
MB	+/-	-0.02 (0.0240)	0.3336	-0.024(0.023)	0.3136	-0.01 (0.0239)	0.5191
LOGMV	+/-	0.2033 (0.0969)	0.036***	0.223(0.096)	0.0204***	0.196 (0.0969)	0.0395**
Log Likelihood		-725.40		-732.76		-726.06	

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

Table 15B   Logit Regression Analysis for STOPPERS and MAINTAINERS (2):

Model 3A:
$$\Pr obablity(stoppers=1) = \beta_0 + \beta_1 DEDPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOGMV + \varepsilon$$

Model 3B:
$$\Pr obablity(stoppers=1) = \beta_0 + \beta_1 QIXPCTG + \beta_2 MBPTN + \beta_3 FTEPS + \beta_4 RETURN + \beta_5 MGTBIAS$$
$$\beta_6 DISP + \beta_7 FUTUREVAR + \beta_8 VOLATILITY + \beta_9 LITIRISK + \beta_{10} ANALYST + \beta_{11} LOGMV + \varepsilon$$

Model 3C:
$$\Pr obablity(stoppers=1) = \beta_0 + \beta_1 INSTPCTG + \beta_2 DEDICATED * INSTPCTG + \beta_3 MBPTN + \beta_4 FTEPS + \beta_5 RETURN$$
$$+ \beta_6 MGTBIAS + \beta_7 DISP + \beta_8 FUTUREVAR + \beta_9 VOLATILITY + \beta_{10} LITIRISK + \beta_{11} ANALYST + \beta_{12} LOGMV + \varepsilon$$

Model 5:
$$\Pr obablity(stoppers=1) = \beta_0 + \beta_1 OUTPCTG + \beta_2 INSTPCTG + \beta_3 DEDDM * INSTPCTG + \beta_4 CASHPCTG + \beta_5 MBPTN + \beta_6 FTEPS$$
$$+ \beta_7 RETURN + \beta_8 MGTBIAS + \beta_9 DISP + \beta_{10} FUTUREVAR + \beta_{11} LITIRISK + \beta_{12} VOLATILITY + \beta_{13} ANALYST + \beta_{14} LOGMV + \varepsilon$$

S (314) M (1296)		Model 3A Coeff.(SE)	P Value	Model 3B Coeff.(SE)	P Value	Model 3C Coeff.(SE)	P Value	Model 5 Coeff.(SE)	P Value
INTERCEPT	?	-2.1939(0.8495)	0.0098**	-1.6422 (0.8530)	0.0542*	-1.7366 (0.8562)	0.0425 **	-3.7535 (0.9547)	<.0001***
OUTPCTG	+/-							2.4471(0.5122)	<.0001***
CASHPCT	+							0.5312(0.1236)	<.0001***
INSTPCTG	-					-0.6289(0.2608)	0.0159**	-0.7177(0.2670)	0.0072**
DEDD*INSTPCTG	+					0.3061(0.1205)	0.0111**	0.3001 (0.1222)	0.0141**
DEDPCTG	+	0.7770(0.3676)	0.0346**						
QIXPCTG	-			-1.5355(0.3568)	<.0001**				
MBPTN	-	-0.4854(0.1275)	0.0001***	-0.4530 (0.1280)	0.0004***	-0.4662 (0.1278)	0.0003***	-0.4312 (0.1295)	0.0009***
FTEPS	-	-7.5666(4.7406)	0.1005*	-9.0725 (4.7439)	0.0558*	-8.6685 (4.7403)	0.0674*	-8.5177 (4.8119)	0.0767*
RETURN	-	-0.1242(0.1162)	0.2852	-0.1117(0.1164)	0.3372	-0.1160 (0.1163)	0.3184	-0.0943 (0.1177)	0.4230
MGTBIAS	-	-16.042(4.9209)	0.0011***	-17.209(4.9451)	0.0005***	-16.545 (4.9400)	0.0008***	-15.679(4.9949)	0.0017**
DISP	+	0.9899 (0.6657)	0.1370	1.2732 (0.6726)	0.0584*	1.1493 (0.6716)	0.087*	1.3015 (0.6917)	0.0599**
FUTUREVAR	+	0.1678(0.1087)	0.1228	0.1576(0.1093)	0.1495	0.1635(0.1095)	0.1356	0.1816(0.1112)	0.1024*
VOLATILITY	-	-0.4890(0.7749)	0.5281	-0.8512 (0.7801)	0.2752	-0.8307 (0.7799)	0.2868	-2.2445(0.8623)	0.0484**
ANALYST	-	-0.010(0.0076)	0.1590	-0.0104 (0.0076)	0.1721	-0.0103 (0.0076)	0.1758	-0.0095 (0.0077)	0.2166
LITIRISK	-	-0.475(0.0856)	<.0001***	-0.4889 (0.0860)	<.0001***	-0.4654 (0.0861)	<.0001***	-0.4542 (0.0874)	<.0001***
MB	+/-	-0.019(0.0239)	0.4097	-0.0220 (0.0240)	0.3593	-0.0224 (0.0239)	0.3480	-0.0158 (0.0243)	0.5154
LOGMV	+/-	0.1938 (0.0966)	0.0447**	0.2233 (0.0965)	0.0206**	0.2167(0.0965)	0.0247**	0.1995 (0.0982)	0.0421 **

Table 16A Regression Analysis for the Impact of Stop Decision on R& D Expenditure and Capital Expenditure on the STOPPERS
(Yt0 is the period before the stoppage and Yt+1 is 1 year after the stoppage and yt+2 is 2 years after the stoppage)

Model 6: $RDX = \beta_0 + \beta_1 GROUP + \beta_2 BM + \beta_3 GROWTHEST + \beta_4 LOGMVE + \beta_5 LEV + \beta_6 DED + \beta_7 SALES + \varepsilon$

Model 7: $CAPX = \beta_0 + \beta_1 GROUP + \beta_2 BM + \beta_3 GROWTHEST + \beta_4 LOGMVE + \beta_5 LEV + \beta_6 DED + \beta_7 SALES + \varepsilon$

| | | Year=t+1 | | | | Year=t+2 | | | |
| | | Dependent Variable: RDX | | Dependent Variable: CAPX | | Dependent Variable: RDX | | Dependent Variable: CAPX | |
	S	Coefficient	P value	Coefficient	P value	Coefficient	P value	Coefficient	P value
INTERCEPT	?	0.12102	<.0001***	0.03580	0.0068 **	0.07502	<.0001***	0.02533	0.0108**
GROUP	?	0.00998	0.005**	0.00897	0.0023 ***	0.01215	0.0003***	0.04588	<.0001***
BM	-	-0.04563	0.0002***	-0.02144	0.0003***	-0.02868	0.0002***	-0.02169	0.0003***
GROWEST	+	0.00492	0.0009***	0.00031	0.8132	-0.00567	0.9208	0.00033	0.7539
LOGMV	-	-0.01254	0.0009***	-0.00009	0.0356*	-0.00246	0.4255	-0.00188	0.0409**
LEV	-	-0.02340	0.0102**	0.00550	0.4641	-0.01749	0.0357**	0.00060927	0.9208
DED	+	0.04078	0.0186**	0.02520	0.0784 *	0.02671	0.0980*	0.02589	0.0400**
SALES	+	0.01041	<.0001***	0.00779	<.0001***	0.00949	<.0001***	0.00779	<.0001***
Adj-Rsquare		12.93%		12.21%		12.41%		13.28%	

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

Table 16B Regression Analysis for the impact of stop decision on R& D expenditure and Capital Expenditure on the STOPPERS
(Yt0 is the period before the stoppage and Yt+1 is 1 year after the stoppage and yt+2 is 2 years after the stoppage)
Model 8:
RDX=

$$\beta_0 + \beta_1 GROUP + \beta_2 FUNDS + \beta_3 SALES + \beta_4 TOBINQ + \beta_5 GROWTHEST + \beta_6 LEV + \beta_7 DED + \beta_8 LOGMVE + \beta_9 INDRDX + \varepsilon$$

Model 9:
CAPX=

$$\beta_0 + \beta_1 GROUP + \beta_2 FUNDS + \beta_3 SALES + \beta_4 TOBINQ + \beta_5 GROWTHEST + \beta_6 LEV + \beta_7 DED + \beta_8 LOGMVE + \beta_9 INDCAPX + \varepsilon$$

Group: PRIORPERIOD=0 POSTPERIOD=1	S	Year=t+1				Year=t+2			
		Dependent Variable: RDX		Dependent Variable: CAPX		Dependent Variable: RDX		Dependent Variable: CAPX	
		Coefficient	P value	Coefficient	P value	Coefficient	P value	Coefficient	P value
INTERCEPT	?	.049	.008	.003	.805	.012	.513	.00000	.997
GROUP	?	.009	.009***	.003	.105*	.003	.009***	.003	.083*
FUNDS	+	.035	.000***	.019	.001***	.033	.000***	.008	.098*
SALES	+	.004	.103*	.004	.084**	.006	.097*	.005	.017**
TOBINQ	+	.009	.000***	.006	.000***	.005	.010**	.006	.000***
GROWTHEST	+	.001	.617	0.001	.893	.0013	.830	.0001	.985
INDRDX/INDCAPX	+	.781	.000***	.871	.000***	.804	.000***	.877	.000***
LEV	-	.002	.832	-.001	.877	-.025	.053*	-.003	.985
DED	+	.005	.021**	.017	.207	.017	.060***	-.002	.677
LOGMV	-	-.019	.000***	-.006	.043***	-.005	.254	-.003	.272
F value		22.579	.000	81.010	0.000	19.473	.000	76.68	.000
Adj-Rsquare		15.66%		23.47%		13.34%		25.63%	

Table 17 Regression Analysis for the Impact of Stop Decision on R& D Expenditure and Capital Expenditure on the STOPPERS and MAINTAINERS (Yt0 is the period before the stoppage and Yt+1 is 1 year after the stoppage and yt+2 is 2 years after the stoppage)
Model 10:

$$CRDX= \beta_0 + \beta_1 GROUP + \beta_2 CFUNDS + \beta_3 CSALES + \beta_4 CTOBINQ + \beta_5 CGROWTHEST + \beta_6 CLEV + \beta_7 DED + \beta_8 CLOGMVE + \varepsilon$$

Model 11:

$$CCAPX= \beta_0 + \beta_1 GROUP + \beta_2 CFUNDS + \beta_3 CSALES + \beta_4 CTOBINQ + \beta_5 CGROWTHEST + \beta_6 CLEV + \beta_7 DED + \beta_8 CLOGMVE + \varepsilon$$

Group: STOPPERS=1 MAINTAINERS=0		Year=t+1				Year=t+2			
		Dependent Variable: CRDX		Dependent Variable: CCAPX		Dependent Variable: CRDX		Dependent Variable: CCAPX	
	S	Coefficient	P value	Coefficient	P value	Coefficient	P value	Coefficient	P value
INTERCEPT	?	.002	.223	-.001	.164	.005	.003***	-.004	.000
GROUP	?	.006	.043**	.002	.106*	.006	.047**	.001	.107**
CFUNDS	+	.021	.000***	.003	.106*	.033	.000***	.001	.462
CSALES	+	.018	.000***	.020	.000***	.007	.006***	.016	.000***
CTOBINQ	+	.003	.001***	.001	.353	.003	.001***	.000	.689
CGROWTHEST	+	.001	.761	.003	.057**	.003	.000***	.004	.007***
CLEV	-	-.004	.621	-.018	.002***	-.007	.267	-.032	.000***
CDED	+	-.005	.745	.001	.910	-.002	.913	.016	.245
CLOGMV	-	-.016	.027***	-.006	.046	-.009	.072*	-.009	.011**
F value		16.576	.000***	12.727	.000***	18.621	.000***	20.170	.000***
Adj-Rsquare		21.44%		15.66%		22.58%		14.33%	

***   P-value   is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). *   P-Value is significant at the 0.10 level (2-tailed).
CRDX=Change of RD expenditure from y1 to y0 or from y2 to y0;
CCAPX=Change of Capital Expenditure from y1 to y0 or from y2 to y0;
GROUP=0 for the MAINTAINERS and 1 for the STOPPERS;
CFUNDS=change of FUNDS available from y1 to y0 or from y2 to y0;
CSALES=Change of SALES from y1 to y0 or from y2 to y0;
CTOBINQ=Change of TOBINQ from y1 to y0 or from y2 to y0;
CGROWTHEST=Change of GROWTHEST from y1 to y0 or from y2 to y0;
CLEV=Change of LEV from y1 to y0 or from y2 to y0;
CDED=Change of DED from y1 to y0 or from y2 to y0;
CLOGMV=Change of LOGMV from y1 to y0 or from y2 to y0;

Table 18 Logit Regression Analysis for the Decision to Restart Quarterly Earnings Guidance of the RESUMERS and NONRESUMERS

Model 12: $\Pr(\text{Resume} = 1) = F(\beta_0 + \beta_1 PEPS + \beta_2 FTEPS + \beta_3 RETURNS + \beta_4 FERROR + \beta_5 DISP + \beta_6 FBIAS + \beta_7 CMB + \beta_8 CANALYST + \beta_9 CINST + +\beta_{10} VOLATILITY + \beta_{11} MB + \beta_{12} LOGMVE + \varepsilon)$

Dependent Variable(RESUMERS=1, NONRESUMERS=0)	RESUMERS: 118			NONRESUMERS: 224	
Variables	Expected Sign	Coefficient	Standard Error	Chi-Square	P Value
Coefficient	?	-0.9816	0.5424	3.28	0.0703*
PEPS	+	5.3005	3.0506	3.02	0.0823*
FTEPS	+	1.6208	0.2791	4.95	0.0261**
RETURNS	+	0.2332	0.1880	1.54	0.2148
FERROR	-	-30.7973	16.8039	3.36	0.0668*
DISP	-	-7.1301	2.9472	5.85	0.0156**
FBIAS	-	-37.8670	18.4923	4.19	0.0406**
CMB	+	0.6417	0.2377	7.29	0.0069**
CANALYST	+	0.0720	0.0292	6.08	0.0136**
CINST	+	1.0889	0.4646	5.49	0.0191**
VOLATILITY	+	-1.4372	1.6777	0.73	0.3916
MB	+	0.0414	0.0270	2.36	0.1246
LOGMVE	+	0.0401	0.0219	3.34	0.0677**
Log Likelihood		-205.341			

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed).

Table 19 Sensitivity Analysis for the Decision to Stop Quarterly Earnings Guidance of the STOPPERS and MAINTAINERS (With and Without CHANGERS that Stop Quarterly Earnings Guidance and Switch to Annual Earnings Guidance

STOPPERS without CHANGERS (296) MAINTAINERS (1200)		Model.5		STOPPERS and CHANGERS (18) MAINTAINERS (96)	Model.5
		Coeff.	P	Coeff.	P
INTERCEPT	?	-3.63	0.0002***	-9.87	0.06**
OUTPCTG	+/-	2.38	<.0001***	1.67	0.455
CASHPCT	+	0.58	<.0001***	-0.77	0.24
INSTPCTG	-	-0.63	0.02**	-2.07	0.09*
DEDD *INSTPCTG	+	0.26	0.04**	1.15	0.03**
MBPTN	-	-0.48	0.0003***	0.55	0.36
FTEPS	-	-7.87	0.11	-7.88	0.74
RETURN	-	-0.05	0.64	-1.24	0.07*
MGTBIAS	-	-15.54	0.00***	-43.6	0.22
DISP	+	0.91	0.23	12.15	0.02**
FUTUREVAR	+	0.22	0.07*	-0.11	0.74
VOLATILITY	-	-1.50	0.07*	3.56	0.46
ANALYST	-	-0.00	0.29	-0.03	0.34
LITIRISK	-	-0.45	<.0001***	-0.05	0.89
MB	+/-	-0.02	0.41	-0.00	0.97
LOGMV	+/-	0.19	0.05**	0.91	0.09*
Log Like.		-635.86		-35.86	

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

Table 20A Sensitivity Analysis for the Impact of SOX Act on the Stop Decision of the STOPPERS and MAINTAINERS (before SOX)

S (50) M (240)		M.1		M.2		M. 3A		M.3B		M.3C		M.4		M. 5	
2001-2002		Coeff.	P	Coeff.	P	Coeff.	P	Coeff.	P	Coeff.	P	Coeff.	P	Coeff.	P
INTERCEPT	?	-6.38	0.01**	-4.69	0.06**	-4.28	0.07**	-3.51	0.15	-2.12	0.41	-3.62	0.14	-5.20	0.07*
OUTPCTG	+/-	2.38	0.07*											3.43	0.01*
CASHPCT	+			-4.69	0.06**									0.58	0.05**
INSTPCTG	-									-1.4	0.06*	-1.09	0.1*	-1.64	0.04**
DEDD *INSTPCTG	-									0.65	0.05**			0.81	0.02**
DEDPCTG	+					-0.86	0.45								
QIXPCTG	-							-1.53	0.17						
MBPTN	-	-0.59	0.08*	-0.53	0.11	-0.54	0.10	-0.52	0.12	-0.52	0.12	-0.52	0.1**	-0.54	0.13
FTEPS	-	-7.74	0.50	-7.05	0.54	-7.40	0.51	-11.1	0.34	-14.08	0.24	-9.74	0.4	-15.21	0.23
RETURN	-	-0.37	0.20	-0.38	0.20	-0.36	0.21	-0.33	0.26	-0.34	0.25	-0.33	0.2	-0.38	0.21
MGTBIAS	-	-27.70	0.00***	-27.10	0.005**	-25.5	0.00**	-27.9	0.00***	-28.14	0.00***	-26.16	0.0***	-30.24	0.003**
DISP	+	-5.07	0.02**	-4.85	0.03**	-4.56	0.04**	-4.60	0.04*	-4.50	0.05*	-4.36	0.0***	-5.00	0.03**
FUTUREVAR	+	-0.25	0.47	-0.20	0.56	-0.24	0.49	-0.24	0.48	-0.38	0.28	-0.26	0.4	-0.43	0.243
VOLATILITY	-	-2.44	0.20	-2.90	0.13	-2.69	0.15	-2.89	0.13	-3.70	0.06*	-2.80	0.14	-3.58	0.08*
ANALYST	-	-0.02	0.22	-0.025	0.29	-0.02	0.25	-0.02	0.32	-0.01	0.51	-0.02	0.32	-0.01	0.52
LITIRISK	-	-0.61	0.00***	-0.65	0.005**	-0.61	0.00**	-0.60	0.00**	-0.57	0.01**	-0.61	0.00***	-0.60	0.01*
MB	+/-	-0.07	0.19	-0.05	0.36	-0.08	0.17	-0.07	0.18	-0.074	0.22	-0.08	0.17	-0.05	0.43
LOGMV	+/-	0.55	0.04**	0.53	0.05*	0.56	0.03**	0.51	0.06*	0.39	0.16	0.545	0.04**	0.39	0.18
Log Like.		-106.7		-106.0		-108.16		-107.5		-105.5		-107.3		-100.5	

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). * P-Value is significant at the 0.10 level (2-tailed).

Table 20B Sensitivity Analysis for the Impact of SOX Act on the Stop Decision of the STOPPERS and MAINTAINERS (After SOX)

S (264) M (1056)		M.1	P	M.2	P	M. 3A	P	M.3B	P	M.3C	P	M.4	P	M. 5	P
2003-2006		Coeff.		Coeff.		Coeff.	P	Coeff.	P	Coeff.	P	Coeff.	P	Coeff	P
INTERCEPT	?	-4.55	0.01**	-3.23	0.001***	-3.15	0.001	-2.50	0.01**	-2.77	0.41	-2.77	0.005**	-4.86	<.000***
OUTPCTG	+/-	2.09	0.02*											2.38	<.000***
CASHPCT	+			0.54	<.0001***									0.58	<.000***
INSTPCTG	-									-0.42	0.06*	-0.32	0.1	-0.53	0.06*
DEDD *INSTPCTG	+									0.27	0.05*			0.24	0.06*
DEDPCTG	+					1.17	0.003**								
QIXPCTG	-							-1.46	<.00***						
MBPTN	-	-0.57	<.000***	-0.56	<.0001***	-0.58	<.0001***	-0.55	<.00***	-0.57	<.000***	-0.58	<.0001***	-0.53	<.000***
FTEPS	-	-9.66	0.07	-8.65	0.11	-9.84	0.06*	-10.39	0.05**	-10.05	0.061	-9.55	0.07*	-9.68	0.07*
RETURN	-	-0.16	0.20	-0.11	0.38	-0.12	0.33	-0.12	0.35	-0.12	0.27	-0.14	0.27	-0.10	0.42
MGTBIAS	-	-10.37	0.00***	-9.83	0.11	-10.32	0.09*	-12.26	0.04***	-11.39	0.06*	-11.40	0.06*	-10.0	0.10*
DISP	+	1.7	0.02**	2.11	0.006**	1.83	0.01**	2.08	0.00***	1.90	0.01*	1.86	0.01**	2.1	0.00**
FUTUREVAR	+	0.19	0.10	0.21	0.56	0.18	0.12	0.17	0.48	0.19	0.10	0.19	0.1*	0.20	0.08*
VOLATILITY	-	1.83	0.07*	1.43	0.07*	2.03	0.05**	1.42	0.17	1.64	0.11	1.71	0.1*	1.11	0.29
ANALYST	-	-0.01	0.13	-0.01	0.21	-0.01	0.13	-0.01	0.13	-0.01	0.13	-0.01	0.16	-0.01	0.14
LITIRISK	-	-0.46	0.00***	-0.47	<.0001	-0.46	<.0001***	-0.48	0.00***	-0.45	<.000***	-0.48	<.0001***	-0.45	<.000***
MB	+/-	-0.01	0.55	-0.008	0.74	-0.009	0.72	-0.01	0.63	-0.01	0.59	-0.01	0.56	-0.009	0.72
LOGMV	+/-	0.27	0.01**	0.28	0.01*	0.26	0.01*	0.29	0.00***	0.29	0.008**	0.29	0.008**	0.29	0.01*
Log Like.		-603.5		-603.3		-606.5		-603.4		-608.0		-610.2		-591	

*** P-value   is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed). *   P-Value is significant at the 0.10 level (2-tailed).

Table 21 Sensitivity Analysis of the Univariate Analysis of the R & D Expenditure and Capital Expenditure of RESUMERS and
NONRESUMERS before the Restart Event

	1 Year Before the RESTART EVENT Yt-1			2 Years Before the RESTART EVENT Yt-2			3 Years Before the RESTART EVENT Yt-3		
	RESUMEMRRS Mean (SE)	NON RESUMERS Mean(SE)	DIFF. (P value)	RESUMEMRS Mean (SE)	NON RESUMERS Mean(SE)	DIFF. (P value)	RESUMEMRS Mean (SE)	NON RESUMERS Mean(SE)	DIFF. (P value)
RDX	.0483(.0058)	.0322 (.0049)	.016 (.036)***	.0459 (.0054)	.0348 (.0053)	.011 (.105)*	.0461 (.0058)	.0324 (.0053)	.0136 (.069)**
CAPX	.0392 (.0037)	. 0423 (.0033)	.003 (.547)	.0405 (.0045)	.0417 (.0035)	.001 (.83)	.0424 (.0048)	.0377 (.0034)	.0046 (.422)

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed).

Table 22A: Sensitivity Analysis of the Regression Analysis for the Impact of Stop Decision on R & D Expenditure on the RESUMERS and NONRESUMERS (1Year, 2 Years and 3 Years before the RESTART EVENT)

Model 13:

RDX=

$$\beta_0 + \beta_1 GROUP + \beta_2 FUNDS + \beta_3 SALES + \beta_4 TOBINQ + \beta_5 GROWTHEST + \beta_6 LEV + \beta_7 DED + \beta_8 LOGMVE + \beta_9 INDRDX + \varepsilon$$

Dependent Variable: RDX		1 Year Before the RESTART EVENT Yt-1		2 Years Before the RESTART EVENT Yt-2		3 Years Before the RESTART EVENT Yt-3	
Group: NONRESUMERS=0 RESUMERS=1	Sign	Coefficient	P value	Coefficient	P value	Coefficient	P value
INTERCEPT	?	.102	.000***	.097	.000***	.098	.000***
GROUP	?	.013	.059**	.0005	.092*	.005	.064**
FUNDS	+	.046	.034**	0.043	.094*	0.005	.078**
SALES	+	.019	.000***	.019	.000***	.018	.000***
TOBINQ	+	.021	.000***	.022	.000***	.019	.000***
LEV	-/+	-.042	.034**	-.022	.024**	-.024	.047**
LOGMV	-	-.024	.000***	-.021	.000***	-.021	.000***
F value		15.581	.000***	11.859	.000***	9.673	.000***
Adj-Rsquare		.294		.224		.187	

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed).
Variable Descriptions:
DEPENDENT VARIABLE:
RDX=R&D expenses (Compustat data #46) for the year scaled by total assets (data#6) at the beginning of the fiscal year.
INDEPENDENT VARIABLES:
GROUP=1 if firms are RESUMERS, 0 if firms are NONRESUMERS;
BM=Ratio of book value of equity(data#60) to market value of equity (data#25*data#199) at the end of the year;
GROWTH=Median of the analysts' long term growth forecast(annual) at the end of the year from First Call;
LOGMV=log of market value (data #25*data #199) at the end of the year
LEV=short term debt (data#34) plus long-term debt(data#9) over total assets (data#6) at the end of the fiscal year
DED=Percentage of the dedicated institutional holding at the end of the year from CDA/Spectrum Institutional Holding database.
SALES=Sales(data#12) for the fiscal year scaled by total assets (data#6) at the beginning of the year;
FUNDS= (Income before extraordinary items + R &D +Depreciation)/Sales
TOBINQ= (price *shares +book value of preferred stock +long-term debt+short-term debt)/assets
INDRDX/CAPX=Industry average RD expenditure and Capital Expenditure, calculated by the first 2 digits of SIC code

Table 22B: Sensitivity Analysis of the Regression Analysis for the Impact of Stop Decision on Capital Expenditure on the RESUMERS and NONRESUMERS (1Year, 2 Years and 3 Years before the RESTART EVENT)

Model 14:

CAPX=

$$\beta_0 + \beta_1 GROUP + \beta_2 FUNDS + \beta_3 SALES + \beta_4 TOBINQ + \beta_5 GROWTHEST + \beta_6 LEV + \beta_7 DED + \beta_8 LOGMVE + \beta_9 INDCAPX + \varepsilon$$

Dependent Variable: CAPX		1 Year Before the RESTART EVENT Yt-1		2 Years Before the RESTART EVENT Yt-2		3 Years Before the RESTART EVENT Yt-3	
Group: NONRESUMERS=0 RESUMERS=1	Sign	Coefficient	P value	Coefficient	P value	Coefficient	P value
INTERCEPT	?	.012	.439	.005	.759	.005	.784
GROUP	?	.003	.564	.000	.939	.006	.305
FUNDS	+	.008	.634	.002	.758	.001	.685
SALES	+	.014	.000***	.018	.000***	.015	.000***
TOBINQ	+	.003	.235	.005	.053**	.003	.245
LEV	-/+	.005	.743	.007	.667	-.004	.802
LOGMV	-	-.003	.506	-.003	.565	-.004	.373
F value		3.956	.001***	5.286	.000***	3.795	.001***
Adj-Rsquare		.073		.102		.069	

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed).

Variable Descriptions:
DEPENDENT VARIABLE:
CAPX=Capital expenditure (data#30) for the fiscal year scaled by the total assets (data#6) at the beginning of the year;
INDEPENDENT VARIABLES:
GROUP=1 if firms are RESUMERS, 0 if firms are NONRESUMERS;
BM=Ratio of book value of equity(data#60) to market value of equity (data#25*data#199) at the end of the year;
GROWTH=Median of the analysts' long term growth forecast(annual) at the end of the year from First Call;
LOGMV=log of market value (data #25*data #199) at the end of the year
LEV=short term debt (data#34) plus long-term debt(data#9) over total assets (data#6) at the end of the fiscal year
DED=Percentage of the dedicated institutional holding at the end of the year from CDA/Spectrum Institutional Holding database.
SALES=Sales(data#12) for the fiscal year scaled by total assets (data#6) at the beginning of the year;
FUNDS= (Income before extraordinary items + R &D +Depreciation)/Sales
TOBINQ= (price *shares +book value of preferred stock +long-term debt+short-term debt)/assets
INDRDX/CAPX=Industry average RD expenditure and Capital Expenditure, calculated by the first 2 digits of SIC code

Table 23 Sensitivity Analysis of the Impact of Year on the Restart Decision for RESUMERS and NONRESUMERS, Year 2004-2006 and year 2007-2008

Dependent Variable(Starter=1)	Year 2004-2006 Obs: Resumer: 68 Non-Resumer: 117					Year 2007-2008 Obs: Resumer: 50 Non-Resumer: 107			
Variables	Expected Sign	Coefficient	Standard Error	Chi-Square	P Value	Coefficient	Standard Error	Chi-Square	P Value
Coefficient	?	-0.9816	0.5424	3.28	0.0703**	-1.1859	0.5716	4.30	0.0380**
PEPS	+	5.2239	3.0115	3.01	0.0828*	4.6512	3.4188	1.85	0.0737*
FTEPS	+	1.2789	0.5025	3.13	0.0715*	1.1843	3.4866	0.12	0.7341
RETURNS	+	0.2332	0.1880	1.54	0.2148	0.1561	0.2973	0.28	0.5994
FERROR	-	-20.6051	15.1131	1.86	0.1728	-7.1418	7.8192	0.83	0.3610
DISPERSION	-	-6.3111	3.0097	4.40	0.0360***	-8.8582	3.8784	5.22	0.0224***
FBIAS	-	-30.8960	14.9539	4.27	0.0388**	-30.0061	16.0354	3.75	0.0527**
CMB	+	0.8305	0.3168	6.87	0.0088***	0.3894	0.3906	0.99	0.3188
CANALYST	+	0.1516	0.0452	11.26	0.0008***	0.0074	0.0408	0.03	0.8555
CINST	+	2.3615	0.7608	9.63	0.0019***	0.1037	0.6073	0.03	0.8644
VOLATILITY	+	-1.4372	1.6777	0.73	0.3916	-0.2763	2.5200	0.01	0.9127
MB	+	-0.0414	0.0270	2.36	0.1246	0.0684	0.0356	3.69	0.0549**
LOGMVE	+	0.0351	0.0221	2.53	0.1119	0.0393	0.0232	2.85	0.0912
Log Likelihood		-205.34				-79.27			

*** P-value is significant at the 0.01 level (2-tailed). ** P-Value is significant at the 0.05 level (2-tailed).

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