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Disclosure Frequency around New Equity Offering and Its Effect on Stock Price

Liwei Dai

(40329@student.hhs.se)

Song Wang

(40167@student.hhs.se)

Abstract: In this paper, we look at 80 US firms that issue new equity in 2005 and examine their change in disclosure frequency (as measured by the number of press release) around the offerings, relative to the matching firms. Different from the findings in previous research, issuing firms in our study significantly increase their disclosure activities in the half year immediately following the announcement of new offering, relative to its matching firm. Three possible explanations are suggested in the study: increasing litigation concern, longer waiting period between announcement and issue date of offering, restriction from lock-up agreement that regulates the selling shareholders. Among different categories of press release, disclosure increase could be noticed in the operation-related information disclosure and disclosure announcing the participation in the investor conferences in this period to circumvent possible legal charges.

Then we examine the cross-sectional relationship between the disclosure frequency of sample firms and stock returns. The result shows that stock return of issuing firm increases in the period when companies increase their disclosure activities. However subsequent to this period, stock performance differs among firms, depending on the reasons behind their previous increase in disclosure activities. The stock return continues increasing for firms that use the disclosure to improve the information transparency and lessen the post-issue underperformance. By comparison, stock return decreases for firms that use the change in disclosure frequency to actually decrease information transparency and thus hype the stock price around the stock issue. This finding is consistent with the previous researches.

Key Words: Press release, disclosure frequency, stock return, stock price hype, information transparency

Supervisor: Hanna Setterberg

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1. Introduction

The disclosure strategy of a company consists of both disclosure level and disclosure frequency. Previous researches have mainly centred on the study of disclosure level, especially the association between disclosure level and cost of capital (Botosan 1997). The source of disclosure in these studies mainly refers to the annual or quarterly reports issued by companies. However, limited researches have studied the impact of disclosure frequency on the investor perception and eventually on the stock market. One possible explanation is that financial statements, as the most accessible information source for investors, are issued by the companies on a regular basis-quarterly, half-year or annually. Therefore, little room has been left to change the frequency of financial reporting. In contrast, companies have much stronger control in the frequency of press release. In this paper, we will use the level and change of press release number as a proxy to examine the implication of disclosure frequency change on the stock market.

Botosan and Harris (2000) suggest the following possible reasons that might explain managers' decisions to increase disclosure frequency.

- Firms experience an increase in information asymmetry and analyst following
- Firms operate in industries where other firms provide frequent disclosure
- Firms experience a decline in liquidity
- Firms plan to issue debt or equity securities in the up-coming future

Lang & Lundholm specially research into the disclosure activities around new equity offering. They find that offering firm increase disclosure intensity six month prior to the announcement of offering. During this period, the stock market reacts positively to the increase in disclosure activities.

The data sample for the previous studies in disclosure frequency is dated back to 1995-1997. Therefore, we like to verify that given the constant changes in the economic and legal environment for firms, whether firms nowadays still increase disclosure frequency around new equity offering and whether this disclosure frequency change has any effect on the stock market.

Compared with previous research, we re-examine this relationship and make the following contribution. First, we make improvement in the research method. In previous research (Botosan and Harris, 2000; Lang & Lundholm, 2000), the use of control firm is a common approach to examine the association between disclosure frequency and stock performance. Yet the process of selecting matching firms involves certain level of randomness. We add to the robustness of the study by testing the regression of the cumulative abnormal return (CAR) on disclosure frequency. CAR is calculated under both Capital Asset Pricing Model (CAPM) and Fama-French three-factor model. In addition, compared with the 41 observations in the study of Lang & Lundholm (2000), we increase the credibility of the result by

doubling the number of sample firms with 80 observations.

Secondly, existing research shows that issuing firms dramatically increase their disclosure prior to the announcement of equity offerings to temporarily enhance the stock price and thus increase the offering proceeds. However, we have seen quite different pattern regarding this. In our study, firms only slightly increase their disclosure activities before the offering announcement, but significantly increase them in the six month after the announcement. One possible reason might lie in the longer waiting period of the new equity offering, the time span between announcement of the new offering and the actual sale of stock. In order to have a comparative result with the previous study, we also use the announcement date of the new offering as the event date (in most cases, it is the same day as the registration date of the new offering with SEC). However, our study shows that waiting period is much longer than that in existing research. The average time difference in our sample firms is around 90-120 calendar days, compared with 33 to 49 calendar days in previous studies (Rangan, 1998; Lang & Lundholm 2000; Jo&Kim 2007). This indicates that for studies regarding new equity offering, the actual issue date might be a more relevant event date, compared to announcement date, which is prevalent in the existing research.

Thirdly, our research also indicates a possible change in the legal environment firms are facing when they intend to issue new shares. 1933 Securities Act prohibits any ``offer to sell`` prior to filing a registration statement. SEC explicitly specifies that forecasts and predictions of future financial performance are not allowed. However, as observed by Lang & Lundholm (2000), no evidence of litigation has been found for the sample firms around the new offering. Therefore, existing researches still observe that companies continue using the increase of disclosure frequency immediately before the offering to condition the market. However, as mentioned above, in our study there is no dramatic increase of disclosure activities six month before the offering. Especially, the number of forecasting-related press release is even found to slightly decrease from the preceding period. Therefore, it is possible that firms nowadays might face more litigation cost than before if they violate the regulation.

Lastly, besides formal disclosure channels such as annual reports and press release, we also like to draw attention to the information released through some informal ways such as participation in the investor conference. In our empirical finding, firms also tend to have more disclosure announcing the participation in the investor conferences in this period. According to In 1933 Securities Act Sec 5, firms are not allowed to use any means of communication to offer to sell around new equity offering, however one exception has been made. For emerging growth company, they may ``engage in oral or written communications with potential institutional investors to determine whether such investors might have an interest in a contemplated securities offering``. The communication time span is also quite flexible. This could happen either prior to or subsequent to the announcement

(registration) date of a new offering. The communication with potential institutional often takes in the form of participation in the investor conference. Therefore, firms may release information using informal channels such as investor conference to reduce the legal concern arising from the disclosure frequency increase in the formal ways such as press release.

In the following sections, the paper is structured as following. In Section 2, based on previous literature, we present our hypothesis related to disclosure frequency and effect on stock return. Sections 3 describes the selection of sample firms and data collection. In Section 4, we present our empirical findings regarding the disclosure activities of a firm around its new equity offering. In section 5, we look into the stock market reaction toward the disclosure activities around new offering. In Section 6, we specifically examine the stock reaction towards two different disclosure strategies, followed by robustness test in Section 7. We conclude in Section 8 with the summary of main findings and areas for future research.

2. Literature Review and Hypothesis

2.1 Disclosure Frequency around New Equity Offering

Growing number of works demonstrate that, in general, disclosure improves transparency and therefore decrease information asymmetry (Schrand and Verrecchia, 2004; Healy and Palepu, 2001) and capital cost (Botosan, 1997). Jo & Kim (2004) argues that if financial analysts, underwriters, auditors those information intermediaries are effective, disclosure can be an effective tool in decreasing information asymmetry and increasing transparency. They also suggest that, in general, disclosure can help increase transparency and thus reduce managers' incentives for manipulating.

Most studies (Clarkson, Kao, and Richardson, 1999; Francis, Philbrick, and Schipper, 1994; Schrand and Verrecchia, 2004; Lang and Lundholm, 2000) state that press release serves as a supplement for the eventful disclosure such as financial reporting; therefore, the frequency of press release could also be regarded as part of firm's informational environment.

It is also possible that altering disclosure frequency can serve variety of purposes of company. Lang and Lundholm (2000) suggest that managers might implement particular disclosure strategies to hype stock prices or reduce transparency. Jo and Kim (2007) advise that the disclosure frequency can be driven by reportable events and managers' decision. Both of these two studies observe that there is an obvious increase in disclosure frequency of firms that have new equity offering in the coming future.

Lang and Lundholm(2000) suggests that though difficult to argue definitively , the

intensive disclosure activity was in anticipation for the forth-coming announced new offering. They also advise that the increase in disclosure frequency preceding the new offering is significant even being tested by controlling the current and future earnings performance of the firms, therefore, the change in disclosure activity goes beyond what would be justified by the company's improvement in current or future earnings and is larger for firms with selling shareholders.

Jo & Kim (2007) confirms Lang and Lundholm (2000) in that firms intending to hype stock price have an incentive to raise disclosure frequency right before the new offering. They argue that though in general, disclosure increase transparency, for hyping firms, frequency of disclosure is not necessarily a good indication for the quality of disclosure. Especially, high frequency of low-quality disclosure can cumulatively offer much less useful information than a single informative press release, and sometimes can even be misleading.

Hypothesis 1: Relative to non-offering firms, offering firm dramatically increase the disclosure frequency right before the offering announcement

Frankel, McNichols and Wilson (1995) present us with an interesting illustration of the motivation for firms' disclosure of forecasting statements. On one hand, firms tend to increase public releases of forecasting information because it can alleviate the adverse selection and moral hazard difficulties, thereby reducing the cost of capital. Most importantly, optimistic forecast releases could make the firms more attractive to new capital. Marquardt & Wiedman (1998) further finds out that when managers participate and sell their stocks through the secondary offering, there will be even more forecasting disclosures.

On the other hand, companies also face the threat of litigation which adds cost for a management forecast, especially a favourable one shortly before the new offering. Because related disclosure law (1933 Security Act) prohibits companies from including anything that might "contribute to conditioning the public mind or arousing public interest in the issuer". Therefore, companies will be less willing to run the legal risk and tend to limit their forecasting statements around new equity issue.

Those two competing forces can exert influence on firms' disclosure of forecasting announcements. Ruland et al. (1990) document that firms which issue earnings forecasts are more likely to finance externally in the subsequent months than firms that do not issue. Market forces provide incentives for financing firms to publish more voluntary disclosure than non-offering firms, but the benefits generated by greater disclosure will be offset by the upward cost due to larger exposure to legal liability.

Hypothesis 2: Due to legal limitation, there should be a limited increase of forecasting disclosure before the new offering announcement.

Suggested by the research object of Frankel et al. (1999), we switch ours to the voluntary disclosure of investment banking conference.

In Frankel et al. (1999), conference calls are treated as supplement of compulsory disclosures e.g. quarterly financial report and other compulsory disclosure. Empirical result indicates that conference calls are used more when unusual or extraordinary item exist in earnings. So it is a tool to convey material information. The author summarizes that as a voluntary disclosure mechanism, company could make full use of it to impact the capital market. Companies with more conference calls in a certain period are found more likely to issue capital from public market in the upcoming future. We assume that similar relations will hold as to investor conferences.

The reason why we switch objective is that based on our experience in counting press release, for most companies (including sample firms and matching firms), there is a regular pattern for conference calls, which is that the declaration of financial reports (quarterly report in most cases) are always followed by an announcement of the conference calls to discuss about and comment on earnings. However, investor conferences are activities that companies participate voluntarily to meet various kinds of market participants and the potential investors. This behavior can either attract investors or support the stock prices. In this sense, we consider that the investor conference is a more interesting objective to do research on.

Hypothesis 3: Firms increase the disclosure frequency regarding the investor conference participation before the announcement of new equity offering.

2.2 The Effect Disclosure Frequency Has on Stock Price

Lang & Lundholm (2000) suggests that as firms increase the disclosure activity prior to the announcement of offering, the pre-announcement stock return also increases correspondingly. Jo & Kim (2007) further suggest that this positive relationship is not sensitive to the time period over which the disclosure frequency is measured. Lang & Lundholm (2000) use absolute amount of earnings performance as a control variable to partially explain the stock return. Yet Ball & Brown (1968) and Kinney et al. (2000) observe that earnings surprise might play a more relevant role in explaining the stock performance. Given above, we assume the following:

Hypothesis 4: After controlling for earning surprise, stock return increases in the period when companies increase disclosure frequency.

However, after the period when firms dramatically increase the disclosure frequency, stock performance differ among firms. It depends on the reasons behind the previous increase in disclosure activities. Lang & Lundholm (2000) and Jo & Kim (2007) suggest two possible reasons that explain the increase in companies' disclosure activities around new equity offering: to reduce information asymmetry or

to hype the stock.

On one hand, according to Healy and Palepu (1993), managers use the increase of disclosure to increase the information transparency of the firms, since investors have different perception from the managers as to the underlying performance of the firms. Specifically Jo & Kim (2007) suggest that information disclosure could help limit the temporary overvaluation of the new equity offering and thus reduce the post-issue underperformance. Firms with transparency-increasing purpose could be identified by the fact they increase the disclosure before the offering but sustain the level even afterwards. According to Lang & Lundholm (2000), Stock performance reacting to this disclosure strategy is increasing over time.

On the other hand, there are also firms that use the increase of disclosure to actually reduce transparency and hype firm's stock price, thereby increasing the offering proceeds. Various securities law stipulate the potential penalty for companies if they commit a fraud in the content of disclosure. Yet, except the 1933 Securities Act, few regulations have been found regarding the manipulation of disclosure frequency. Jones and Weingram (1997) specifically find no evidence of increasing litigation exposure around the new offering. Therefore, firms bear relatively less risk to hype stock prices in the offering by manipulating disclosure frequency. Firms with transparency-reducing purpose could be identified by the fact they tend to substantially increase disclosure activity right before the offering, but subsequently revert back to low disclosure levels after the offering. According to Lang & Lundholm (2000), reacting to this disclosure strategy, stock performance is decreasing over time.

Given the previous literature, we assume similar relation holds for our sample firms.

Hypothesis 5: Subsequent to the period of sudden increase in disclosure activities, the stock return is increasing for firm with transparency-increasing disclosure during the offering and decreasing for firms with transparency-reducing disclosure purpose during the offering.

3. Data Description

In this section, we introduce the selection process and criteria for both sample and matching firms. Then, for the final 80 sample firms with corresponding matching firms, we match them with data of accounting and financial market information and collect disclosure frequency of press release. All the available public press disclosures by each firm are classified into 8 categories and distributed into 8 periods along the event window.

3.1 Sample Firms Selection

In order to have a comparative study design with Lang and Lundholm(2000), our research period extends over five years and we limit the sample to US firms. We set the research period for our study to be 2003 to 2007. To avoid the macroeconomics' influence on the disclosure behaviour of companies, we decided not to use data in 2008 and 2009 to eliminate the impact from the financial crisis. As the post-crisis period (from 2010 to 2012) is not long enough to cover the five-year research period, we choose 2003 to 2007 to be the final research period.

We obtain an initial sample of 404 common stock new issue that occurred in 2005 from the Securities Data Corporation (SDC) database. According to Lang and Lundholm(2000) and Jo and Kim (2007), we exclude issue firms in the financial and utilities industries, with SIC codes ranging from 6000 to 6999, and 4900 to 4999 respectively, because the disclosure behaviours of these two industries are subject to more regulations than others.

From previous research (Francis, Philbrick, and Schipper, 1994; Lang and Lundholm, 1996, 2000; Schrand and Verrecchia, 2004; Jo and Kim 2007) we know that the influence generated by new issue on post-issue return can be prolonged. So multi offerings within a short period might have an overlapping effect. Lang and Lundholm (2000) tests that influence within half year after the new offering. To minimize the overlapping effect, we exclude companies which also have new offerings in 2004 to 2006. Thus 68 firms were dropped. Additionally, according to Schrand and Verrecchia (2004) and Jo and Kim (2007), to control the confounding effect of initial public offering, we exclude 72 firms that went IPO within two years before the secondary equity offering. Meanwhile, our study is conducted with the prerequisite that firms remain survival during the whole research period, so 11 firms that withdrew from market before 2007 are dropped. Due to lack of data in CRSP or Factiva Database, another 18 firms have been excluded. In the qualified sample firms, General Electric Company has been excluded due to the large amount of disclosures and thus might skew the overall results. This leads to a final sample of 80 firms. The whole selection process can be illustrated by table 1:

Table 1: Sample Selection Process

No. of firms have new issue in 2005	404
- financial & utility firms	-154
- multi-offering firms	-68
- IPO firms	-72
- non-survival firms	-11
- firms lack of data	-18
- one extreme observation	-1
Final Sample	80

Table 2 illustrates the sample statistics and distribution in different industries of the final 80 new offering firms, panel A reports a summary of the size and scale of the new offering of all the sample firms. The mean and median of the book value of total assets are \$983.14 million and \$315.00 million, respectively. The mean and median of the market value of equity are \$880.71 million and \$469.37 million, respectively. The mean and median of the new offer amount are \$141.18 million and \$78.70 million, respectively. On average, due to the new offering, the total offer size increases by 22%. Panel B documents the industry distribution of the samples, as seen in the table; firms in manufacturing industry have the highest share, approximate half, of the total sample.

Table 2: Sample Characteristic

Size Characteristic

	Total Asset (\$ million)	Market Value (\$ million)	Book Value (\$ million)	Offer Amount (\$ million)	Offer Size (%)
Mean	983.14	880.71	355.29	141.18	22%
Median	315.00	469.37	147.04	78.70	17%

Industry Distribution

	SIC code	Frequency	% of total
Construction	15 16	2	2.50%
Healthcare	80	1	1.25%
Leisure	79	1	1.25%
Manufacturing	20 26 28 32 34 35 36 37 38 39 50 51 76	39	48.75%
Natural Resource	10 13 49	3	3.75%
Oil/Gas Pipeline	42	1	1.25%
Other Services	59 87	2	2.50%
Pers/Bus/Rep Svc	27 39 48 50 59 73	12	15.00%
Radio/TV/Telecom	48	1	1.25%
Restaurant/Hotel	58 79	2	2.50%
Retail	55	2	2.50%
Transportation	34 42 45	5	6.25%
Wholesale	50 51	3	3.75%

3.2 Matching Firms Selection

Consistent with Lang and Lundholm (2000), we also use matching firms to capture the difference caused by new offering, conditioning on the control of industry and size, etc.

This methodology not only provides us with a good control on the industrial average disclosure frequency level and return, but also allows us to find how and to which degree the offering firms alter their disclosure behaviour around the equity offering. Therefore, matching firms should be representative of the average level in disclosure

frequency and return of the industry. Following this principles, we have the following prioritized criteria for selecting matching firms.

1) No new issue from 2003 to 2007: allows us to know the difference in disclosure level caused by the new offering compared with the industrial average.

2) SIC code: a good limitation for industry. Currently, SIC code has 4 digits for each listed firm. The first 2 digits indicate the major group, the third and the forth stand for more specific industry. The more digits are same, the more similar of industry.

3) Size: disclosure level varies in firms with different scales, we use market cap to control size.

4) Fiscal year-end: having the same fiscal year-end can lead to a more similar disclosure pattern, which can eliminate difference caused by the publication of financial reports.

5) Exchange: market information is more comparable for firms listed on the same market.

Stick to the above five criteria, we select 80 non-offering firms matching firms. As seen in Appendix A, 71 matched pairs have the same four-digit SIC code, the rest of 9 pairs have the same two-digit SIC code; 78 of 80 pairs have the same fiscal year-end; there are 73 pairs traded on the same exchange, the remaining 7 are different. The sample firms have an average of \$880.71 million in market cap in the month of the new offering announcements, compared with \$893.9 million in market cap for the matching firms.

3.3 Stock return data

Return is calculated as continuously compounded return over two periods: 0-6 month and 6-18 month after the announcement of the new offering. All price data is obtained from the Center for Research in Security Prices (CRSP) database. Previous researches (Jo and Kim 2007; Lang and Lundholm, 2000) search data by using companies' name and ticker symbol. We found that there is a flaw for this searching strategy. As some firms change their names during the research period, using company name and ticker to search might be inaccurate and hard to obtain data. We modify this searching method by replacing ticker symbol with permanent number for both sample and matching firms. Permanent number is quoted as PERMNO in CRSP database, which is the unique and permanent issue identification number for each company. As long as the entity does not change in nature, this number keeps the same, regardless of the change in name.

3.4 Disclosure Data Collection

We measure disclosure frequency by using the number of distinct press releases in specific periods. Our research object is not limited to the quarterly, half-year or annual financial reports, but all the public disclosure that company make via publishing press releases.

Mostly the press release disclosed by a firm will be sent out to many news wire services at the same time by paying fees according to the length of the announcement, and this result in that the same news published by different wires leading to duplication. We search in Factiva database by using company name and set two of the common newswire-PR newswire and Business Wire as the source. We focuses on the investigating relationship between the post-issue performance and the voluntary disclosure behaviour of companies, thus only companies' voluntary choices are meaningful to this study. During collecting work, we only include the distinct press release, and exclude public announcements made by news agents or other media which are not directly from company. As to the duplicated ones, we only make one count, keeping the most extensive initial one as effective. Different from Jo and Kim (2007), we also include press releases about new issues. Because most of these press releases not only include news about the offering, but also other information, for instance, prediction of future earnings or operation-related information. Moreover, we consider these announcements part of the voluntary disclosure behaviour of firms. In the meantime, we adapted our search for two firms due to change of company name during study period.

We read through roughly 21000 press releases and screen with 13726 effective ones. Among those, there are 7947 and 5779 effective ones for sample and matching firms, respectively. We distribute all those effective press releases into eight periods as defined timeline in figure 1.

3.5 Classification of Press Release

Our work for press releases is not limited to identify and count the amount of initial distinct press releases. We also read through the content and then code each according to content. Our classification was adapted from Lang and Lundholm (2000), with some modifications and adjustments. The following lists the categories we classified and each type is followed by an example quoted from actual press releases.

Type 1: Financial performance announcements: Including:

- 1) Notification of the date for financial reports release, such as quarterly, half-year and annual report;
- 2) Releases that include brief content of financial reports;
- 3) Corresponding explanation or comments on financial performance;
- 4) Non-quarterly but earnings-related announcements, such as monthly

sales report, etc.

Total revenue for the quarter ended September 2005 was \$315.1 million, up 59% from \$198.6 million reported for the September 2004 quarter. Operating income increased 76%, to \$70.2 million in the September 2005 quarter compared to \$39.9 million in the prior year quarter. Net income for the September 2005 quarter was \$44.9 million or \$0.95 of earnings per diluted share, using 48.7 million weighted-average shares outstanding. Net income for the September 2004 quarter was \$19.5 million or \$0.51 of earnings per diluted share, using 40.3 million weighted-average shares outstanding.

Type 2: Operational news announcements: Including:

- 1) Expansion or shrinkage of the scale of facility or devices for production;
- 2) Signing new contracts or other activities that will affect near future earnings;
- 3) Launching of a new product and its corresponding process track records;
- 4) Adoption of a new technology that will affect manufacture;
- 5) Production related cooperation with other entities;
- 6) Reports about volume, order backlog, etc;
- 7) Additional detail or comments related to production or productivity.

"Our strategy is to have a pipeline of new products that we can insert into our extensive distribution system. The Max roofing products are well designed and manufacturing capacity is in place. We will begin immediately to market Max Slate and Max Shake through our distribution system," said Jack Lawless, president of Tapco. Lawless added, "These products will be our second new product line to be introduced this fall. Last month, we introduced into the Florida market an innovative hurricane proof window protection shutter. With the risk of hurricane damage becoming very evident, we are excited about this innovative new product."

Type 3: Forward looking statements: Including:

- 1) short-term forecasts of financial results or non-financial data in the form of quantitative or qualitative;
- 2) Long-term forecasts of financial results or non-financial data in the form of quantitative or qualitative.

"Our OEM electronics business softened in the quarter, driven primarily by the mobile handset and hard disk drive businesses; we have actions underway to address this softening. The rest of our business in the Americas and Europe remains solid," said Frank Jaehnert, Brady's president and chief executive officer.

"For the full fiscal year 2007, we now expect sales of between \$1.35 and \$1.37 billion, up from our previous guidance of \$1.25 to \$1.275 billion; net income of between \$113 and \$118 million, down from \$122 to \$126 million; and diluted earnings per share of between \$2.06 and \$2.15, down from \$2.22 to \$2.29," said David Mathieson, Brady's chief financial officer.

Type 4: assets write-down

CORAL GABLES, Fla., Feb. 15 /PRNewswire-FirstCall/ -- MasTec, Inc. (NYSE: MTZ) today announced that it has closed the sale of its discontinued state Department of Transportation projects and assets. Final terms of the sale include a purchase price of up to \$13 million, composed of \$1 million in cash and a contingent earn-out of up to \$12 million.

Austin J. Shanfelter, MasTec's President and CEO noted, "The sale of the non-core DOT projects and assets is a very important milestone for the Company. With the discontinued operations distractions behind us, MasTec can focus on the improving market for its services and translating that demand into better bottom line performance. When Jose Mas takes over leadership of the Company as CEO on March 31, MasTec will be well capitalized and positioned to concentrate on future growth opportunities".

Type 5: companies sales and acquisition

PORTLAND, Ore. - (BUSINESS WIRE) - Dec. 20, 2005 - Barrett Business Services, Inc. (Nasdaq:BBSI) today announced that it has reached an agreement in principle to acquire certain assets of Pro HR, LLC, headquartered in Boise, Idaho, effective January 1, 2006. Consideration for the transaction, valued at \$5.5 million all cash, includes \$4.0 million due upon closing and \$1.5 million contingent upon 2006 financial performance. Any shortfall from the 2006 targeted financial performance will result in a pro rata reduction to the purchase price up to \$1.5 million. Closing of the acquisition is conditioned upon execution of a definitive asset purchase agreement.

Type 6 Dividend payout and dividend related notification

MILWAUKEE - (BUSINESS WIRE) - Brady Corporation's (NYSE:BRC) Board of Directors has declared a quarterly dividend to shareholders of the company's Class A Common Stock of \$0.14 per share, payable on July 31, 2007, to shareholders of record at the close of business on July 10, 2007.

Type 7: Investor conference notification: Announcements about the notification for conferences firms attended held by investment bank to meet potential investors and other market participants.

Management is scheduled to present at 11:15 a.m. Eastern. Kirk A. Benson, chairman and chief executive officer of Headwaters Incorporated, will comment on the company's current business plan. For those who are interested in hearing the presentation, it can be accessed through Headwaters' Web site at www.headwaters.com ➔. A link will be made available through the "Investor Relations" section under the heading of "Web Casts and Presentations." There will be a replay of the presentation available for 30 days.

Type 8: Other remaining types: Besides the above types, other categories are included in this type. Including:

- 1) Announcement of the new public offering;
- 2) Stock-related notification or information;
- 3) Management and personnel changes;
- 4) Corporate Social Responsibility (CSR);
- 5) Changes in accounting regime;
- 6) Other equity transaction, e.g. issue of convertible bonds or employee option;

- 7) Other financing decision;
- 8) Awards won

Scott K. Sorensen has been hired and will assume chief financial officer responsibilities effective Oct. 1, 2005. Sorensen has an undergraduate degree in accounting from the University of Utah and an MBA from the Harvard Business School. He has an impressive track record of success in progressively responsible positions with complex organizations of various sizes. His work history includes positions with McKinsey & Co., Phelps Dodge Industries, Westinghouse and Pliant Corp. (formerly known as Huntsman Packaging). Most recently, he has served as VP and CFO for Hillenbrand Industries, an NYSE-listed, \$2 billion revenue manufacturer of health care and funeral products located in Batesville, Ind.

The economic benefit of the transaction remains the same, and cash proceeds from the sale are \$2.7 million, as previously reported.

The required accounting treatment of the leaseback component of the transaction defers a portion of the gain, and the non-cash consideration received is removed from the gain.

As a result, the gain on the transaction will be recorded as \$2.2 million, or \$0.5 million less than previously reported. Of the total gain, \$1.0 million, or \$0.07 per share, will be recognized in the fourth quarter ending March 31, 2005, and \$1.2 million will be deferred and recognized as income over the 10-year leaseback period. Additionally, the \$0.5 million of non-cash value will be recognized as lower operating expenses over the 10-year leaseback period.

Separately, on January 14, 2005, Columbus McKinnon had announced that it had completed the sale of a Chicago area property for \$3.675 million. The favorable effect to net income in the fourth quarter of fiscal 2005 ending on March 31, 2005 for this transaction will be as previously reported \$2.65 million, or \$0.18 per diluted share. Total net income effect in the fourth quarter 2005 as a result of the gains made on

In the collection process, we include press releases of all the above types to capture features of firms' disclosure behaviour. Table 3 documents the characters of disclosure activities of firms.

Table 3: Number of Press Release for Sample and Matching Firm by Types

Categories	Sample Firm		Matching Firm	
	Total by Type	Per Firm by Type	Total by Type	Per Firm by Type
Financial	1146	15.49	1934	26.14
Operational	2597	35.09	1611	21.77
Forecasting	179	2.42	96	1.30
Asset Write-down	24	0.32	72	0.97
M&A	336	4.54	192	2.59
Dividend Payout	153	2.07	162	2.19
Investor Conferences	1955	26.42	689	9.31
Others	1557	21.04	1023	13.82

From the above data, we find that for sample firms, the most common types of press releases are related to operational and investor conference, however, for matching firms, the most common types change to financial and operational related. One common point for both sample and matching firms is that the behaviour of disclosing operational information frequently is less affected by the new offering event compared with investor conference, and other several types. The difference for the most common two types of sample and matching firms suggests that the focus of disclosing varies to the new offering event. Though sample firms have a lower frequency in financial related disclosure, operational related disclosure will have a great influence on the future earnings, suggesting a more valid profitability.

Based on Form 8-K, disclosure of a company can be classified into reportable events and voluntary disclosure. Voluntary disclosures are events whether report or not are decided by companies, and there is no strict rules require disclosing, usually disclosure about these kinds of events can differ from company by company. On the contrary, reportable events are detailed listed in the Form 8-K, and are required to disclose when it happens. Jo and Kim (2007) claim that two factors: reportable events and managers' disclosure strategy drive the number of press releases of a firm. Thus intention of the disclosure can be identified as transparency or opaque. Typically, it is natural that firms have frequent reportable events disclose more. As shown in Rees, Gill, and Gore (1996) that abnormal accruals are significantly negative in years with write-downs. Similarly, events of dividend pay-out or acquisition will also generate larger amount of press releases. Thus reportable events will affect the interpretation of firm's accruals.

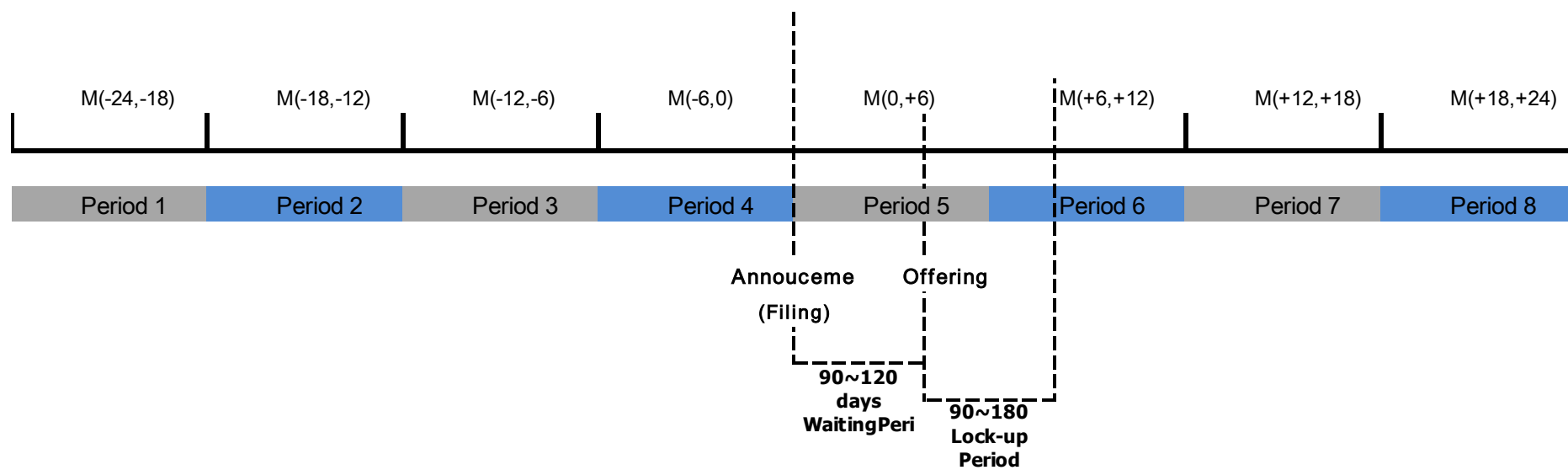
Hence, in the following empirical result, press releases related to asset write-down, merger & acquisition, and dividend pay-out are excluded from our analysis.

4: Empirical Result: Disclosure Activities around new equity offering

In this section, we will examine whether companies increase their disclosure activities, as measured by number of press release, around new equity offering. Firstly, we will discuss the overall trend. Then we will look into the specific trend for different categories of press release, especially forecasting statement and participation announcement of investor conference.

As mentioned in the data description, we set the announcement of the new offering as the event date. The event window for our disclosure analysis is four years and consists of eight periods, four periods before the announcement, and four periods after. Each period extends over six month. Figure 1 demonstrates the timeline of new equity offering in our study. For most sample firms in our study, the announcement date of the new offering is the same day as the filing date. The average waiting period between the filing date and actual issue date in our study is around 90-120 calendar days. After that, according to Field and Hanka (2001), firms often enter into

Figure 1: Timeline of new Equity Offering



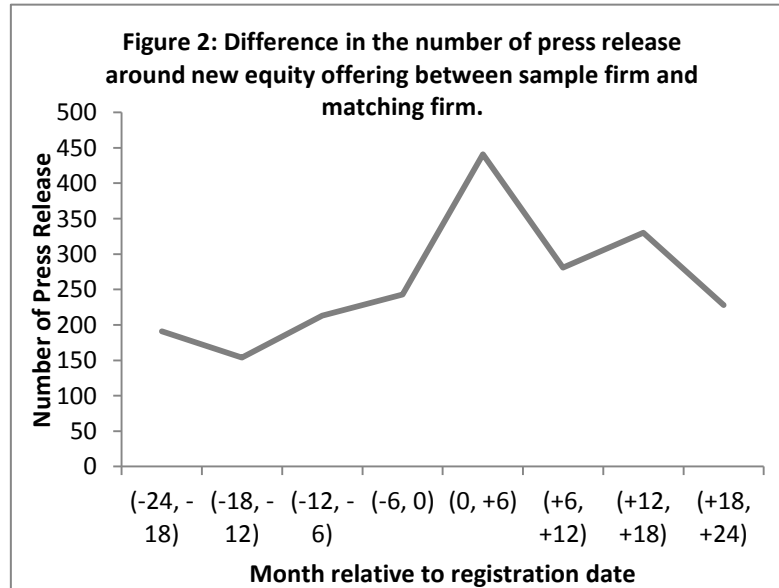
a lock-up agreement with the underwriters that prevent managers at the offering firm from selling their holdings during the 90-180 days after the issue date.

4.1 Disclosure Activities around New Equity Offering: Overall Trend

Table 4 describes the number of press release around the new equity offering for both sample firms and matching firms and makes the comparison. In Figure 2, the overall trend is depicted to graphically demonstrate how the number of press release for sample firms changes relative to the matching firms.

Table 4 Total Number of Press Release Around New Equity Offering

	Sample Firm	Matching Firm	Difference
Months (-24,-18)	703	512	191
Months (-18,-12)	747	593	154
Months (-12,-6)	870	657	213
Months (-6,0)	975	732	243
Months (0,+6)	1181	740	441
Months (+6,+12)	985	704	281
Months (+12,+18)	998	668	330
Months (+18,+24)	975	747	228
Total	7434	5353	2081



As can be seen from the graph in Figure 2, relatively to matching firm, sample firms start to increase the disclosure frequency 18 month prior to announcement of the offering. The level of disclosure peaks in the period (0, +6) after the offering announcement, but drops immediately in period (+6, +12) and reverts back to the level before the offering. Except these two periods, the difference between sample firm and matching firm remains approximately same.

This finding is partially consistent with our hypothesis 1. Companies do increase the disclosure activities prior to offering announcement. But different from Lang & Lundholm (2000), the sample firms experience the dramatic increase in disclosure activities in the six month following the offering announcement, rather than six month prior to the announcement.

We suggest three possible reasons that might explain our result difference from the previous researches.

4.1.1 Longer waiting period between announcement and issue date of new offering

One possible reason might lie in the longer waiting period of the new equity offering, the time span between announcement of the new offering and the actual sale of stock. In order to have a comparative result with the previous study, we also use the date of offering announcement as the event date (in most cases, it is the same day as the registration date of the new offering with the US Securities and Exchange Commission). However, our study shows that the waiting period is much longer than that in existing researches. As shown in Figure 1, the average waiting period in our sample firms is around 90-120 calendar days, compared with 33 to 49 calendar days in previous studies (Rangan, 1998; Lang & Lundholm 2000; Jo&Kim 2007).

From the press release we observe for our sample firms, companies only state the number of shares they intend to issue when they announce the offering of new equity for the first time, while the issue price is not specified until the actual sale of stock. Therefore, in order to elevate the stock price, it is more effective for firms to increase the disclosure activities right before the issue date, especially when the wait period between announcement of the new offering and the actual sale of stock is long, as demonstrated in our study.

4.1.2 Increase of Litigation Concern

The increase in disclosure activities six month after the offering announcement might be also explained by the possible change in the legal environment firms are facing. The 1933 Securities Acts Section (c) prohibits any "offer to sell" a new equity prior to the registration with the Securities and Exchange Commission. However, as observed by Lang & Lundholm (2000), no evidence of litigation has been found for the sample firms, even when the issue companies in their study dramatically increase the disclosure activities six month prior to the new offering.

Given the penalties for overall securities fraud are increasing in recent years, it might be possible that firms nowadays face more legal cost for any violation with the relevant regulations. This might be further suggested by our findings in the number of forecasting press release around the new equity offering, which will be presented

in detail in the later part of this section.

4.1.3 Restriction from the lock-up agreement

According to Marquardt & Wiedman (1998), when managers participate and sell their stocks through a secondary offering, managers tend to actively influence the level of information asymmetry using disclosures around the announcement period. However, as demonstrated in Figure 1, according to Field and Hanka (2001), firms often enter into a lock-up agreement with the underwriters that prevent managers at the offering firm from selling their holdings during the 90-180 days after the issue date. Rangan (1998) and Jo & Kim (2007) further observe that because of the restriction from lock-up agreement, managers tend to manage earnings in the period even subsequent to the offering announcement. Hence, at the end of the lock-up period when managers are allowed to sell their holdings, the stock price has been already elevated. Besides earnings management, it might be possible that firms also use the increase of disclosure activities to hype the price.

As mentioned above, the average issue date for our sample firms is 90-120 days away from the announcement date. Adding them together, it indicates that managers from issue firms could sell their holdings only 180-300 days after the announcement of the offering, i.e. 6-10 months. This indicates that in our study, the time span is quite long between the announcement date and the date when managers are actually allowed to sell their own holdings. Therefore, it might be more effective for managers to attract investor attention when it is close to the end of the lock-up period. In our study, it is close to the six month after the offering announcement.

4.2 Disclosure Activities around New Equity Offering: Trend for Different Disclosure categories

After examining the overall trend of disclosure frequency level around the new offering, now we will look into the average number of press release per firm for various disclosure categories around the new equity in Table 5. The data presented here is relative to the matching firm.

In the previous analysis for overall trend, sample firms dramatically increase their disclosure activities in the half year subsequent to the announcement of the offering. However looking at each disclosure category, we find that only Operational, Investor Conference and Others also enjoy the increase in this period, relative to their matching firms, while the numbers of Forecasting statements are actually decreasing.

Table 5: Difference in mean of disclosure frequency between sample and matching firms in each period by type

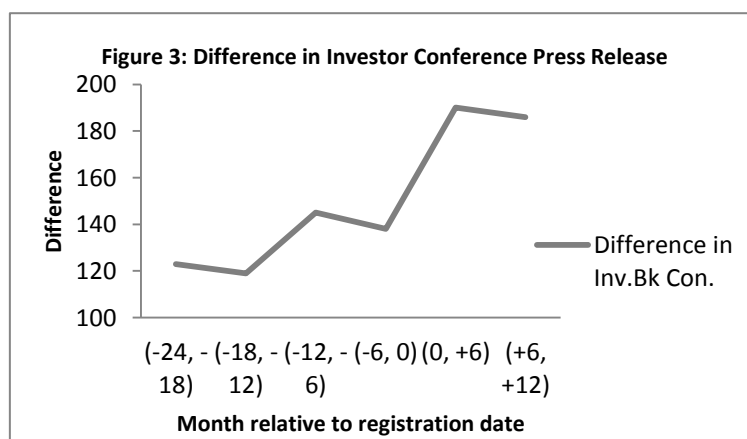
	Financial	Operational	Forecasting	Investor Conferences	Others	Sum
Months(-24,-18)	-0.85	1.14	-0.05	0.69	1.66	2.58
Months(-18,-12)	-1.47	1.26	0.07	0.62	1.61	2.08
Months (-12,-6)	-1.34	1.27	0.14	0.85	1.96	2.88
Months (-6,0)	-1.15	1.35	0.14	1.08	1.86	3.28
Months (0,+6)	-1.31	2.28	0.07	2.35	2.57	5.96
Months(+6,+12)	-1.54	2.09	0.22	0.51	2.51	3.80
Months(+12,+18)	-1.38	2.23	0.26	0.59	2.76	4.46
Months(+18,+24)	-1.61	1.70	0.30	0.51	2.18	3.08

4.3 Disclosure Frequency Change in Operational Statements

For Operational disclosure categories, on average each firm increases from 1.35 statements to 2.28 statements in the half year following the offering announcement. This category is mainly centred on the product and service of the firms or its business development activities, which could indicate companies' future earning potentials. Because operation related statement is allowed by according to SEC release no. 5180. Therefore, sample firms could exert bigger control over this category, compared with the others.

4.4 Disclosure Frequency Change in the Participation Announcement of Investor Conference.

For disclosures related to announcement of investor conference participation, on average each firm increases from 1.08 statements to 2.35 statements. The empirical result is partially consistent with the Hypothesis 3. Figure 3 demonstrates that sample firms do increase the number of disclosure that announces firms' participation in various investor conferences. Yet in consistent with the overall trend, the dramatic increase for this category occurs in the half year following the offering, rather than before.



Besides formal disclosure channels such as annual reports and press release, information could be also released through some informal ways such as participation in the investor conference. As mentioned above, in 1933 Securities Act Sec 5, firms are not allowed to use any means of communication to offer to sell around new equity offering, however one exception has been made. For emerging growth company, they may ``engage in oral or written communications with potential institutional investors to determine whether such investors might have an interest in a contemplated securities offering`. The communication time span is also quite flexible. This could happen either prior to or subsequent to the announcement (registration) date of a new offering. Usually, the communication with potential institutional investors often takes in the form of participation in the various investor conferences. During the conference, firms often present their current and forecast financial performance to attract the institutional investors. To further look into the regulation, no precise description has been found to define emerging growth companies. Therefore, the legal threat is quite low for firms that intend to use informal channels such as investor conference participation to elevate the stock price, as long as they could claim themselves as emerging growth companies.

4.5 Disclosure Frequency Change in Forecasting Statement

The most of forecasting press releases for our sample firms are earnings related, which is the same with Frankel et al. (1995) and Marquardt & Wiedman (1998). Explained by the two competing force raised by Frankel, McNichols and Wilson (1995), we can see how those two forces work on forecasting disclosure behaviour.

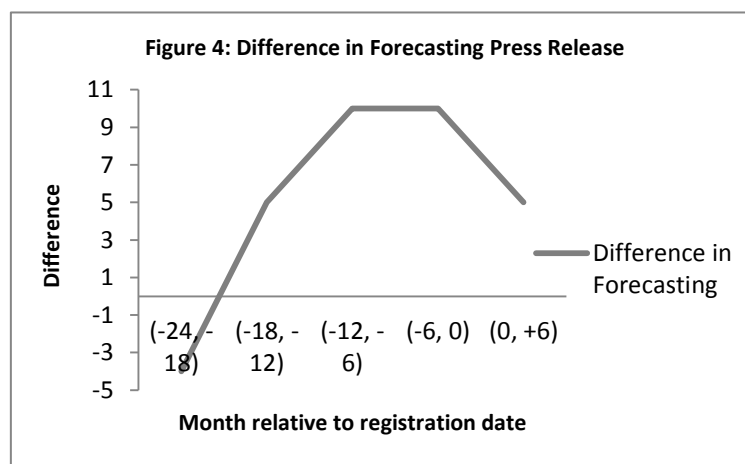


Figure 4 demonstrates the difference of forecasting disclosure frequency between sample firms and matching firms. From the trend displayed by the curve, we can observe that, this gap increase until half year prior to the new offering. This level keeps constant till the event date, and start to decrease afterwards.

From the above sections, we know that, the peak of the difference of all distinct press releases appears in the period of (0, +6), right after the new offering. Decrease

in forecasting announcements should be mainly compensated by the increase in financial and operational disclosures. From this change, we can know that due to the litigation threat, firms are unwilling to run risk, and the decreased frequency caused by forecasting disclosure is compensated by increase in financial and operational related disclosure to support stock prices. Those two categories one indicate financial performance directly and another will have influence on future earnings, so both of these two categories are indicators for profitability and productivity. Compared with positive forecasting announcement, companies may consider that the material historical performances are more convincing than the predicted result, and could be a better guarantee for the stock prices

In brief, due to SEC's explicit prohibition of forecasting statement, it appears that firms could circumvent this regulation by increasing the disclosures related to operational performance or increasing the participation frequency in the investor conference. This is because future earning information could be released indirectly in the operation-related statement and directly in the presentation made during the investor conference

5. The relationship between disclosure frequency and post-announcement stock returns

In this section, we will examine the cross-sectional relationship between firm's disclosure frequency and stock returns. As specified in Hypothesis 4, we will look into whether stock return increases in the period when sample companies increase their disclosure frequency. In the previous disclosure analysis, we observe a significant increase in the disclosure activities for our sample firms in the period (0 to +6) following the offering announcement. To test the relationship in Hypothesis 4, we first of all run a regression between the stock return in the (0 to +6) following the offering announcement and the disclosure frequency in the same period.

5.1 Stock return in (0 to +6) months following the offering announcement

To keep consistent with the disclosure frequency analysis in the previous section, all the variables are calculated as the difference between offering firms and matching non-offering firms. The dependent variable is the difference of continuously compounded return between sample firms and matching firms. To calculate the dependant variable, we downloaded the stock price and return data for each firm from CRSP daily stock file. Returns are compounded daily over the (0 to +6) months subsequent to the offering announcement. For independent variable, according to Lang & Lundholm (2000) and Jo & Kim (2007), change in disclosure frequency is used to examine the association with stock returns. It is calculated as the change in the number of press release in the (0 to +6) months, relative to the preceding six month.

One of the control variables we use is earnings surprise. The data is downloaded

from I/B/E/S database. Earnings surprise is measured as the difference between the actual EPS reported and the average EPS forecasts by analysts. We use both pre-announcement earnings surprise and post-announcement earnings surprise in the regression, which are measured as the earnings surprise over the half year before the offering announcement and one year subsequent to the announcement respectively.

Size and industry effects are controlled through the use of matching firm. Since profitability level is not used during the selection of the matching firm, ROA is included in the regression as additional variable to control for operational performance. For convenience, ROA is calculated as net income divided by total assets at the beginning of the period. To further control for the risk differences, leverage ratio is included in the regression, which is computed as the book value of liabilities divided by the book value of total equities. All the accounting data is downloaded from COMPUSTAT database.

The following regression is used to examine the relationship between the stock return over (0 to +6) months following the offering announcement and the change in disclosure frequency in the same period.

$$\text{Stock Return (0,+6)} = \alpha + \beta_1 \text{Change in disclosure frequency(0,+6)} + \beta_2 \text{Pre-offering earnings surprises} + \beta_3 \text{Post-offering earnings surprise} + \beta_4 \text{ROA} + \beta_5 \text{Leverage} + \varepsilon$$

As shown in Table 6, for the period (0, +6) following the offering announcement, the coefficient on change in disclosure frequency is positive and significant. Firms that increase its disclosure frequency in this period will experience better returns in the same period. Keeping earnings surprise, ROA and leverage constant, firms with one more press release compared with the preceding six-month will experience 1.4% greater returns. This is consistent with our hypothesis 1. Stock return increases in the period when sample companies increase their disclosure frequency. In Lang & Lundholm(2000), the increase in stock return is 1.6%.

It demonstrates that the market rewards the sudden increase in disclosure activities. Investors tend to view the increase of press releases around the new offering as a signal of improved informational transparency, leading to a lower cost of and capital and greater share return. It also suggests that voluntary disclosure channels such as press release is considered as a credible information source for investors. Compared with previous researches, the effect on earnings surprise both before and after the offering announcement is not significant in our study.

Looking at different categories of disclosure as shown in Table 7, the stock return has a significant positive association with the disclosure frequency of operational statements. This category is mainly centred on the product and service of the firms or its business development activities, which could indicate companies' future

Table 6: Regression of (0, +6) stock returns on (0, +6) change in disclosure frequency

	Dependent Variable: Return after the announcement (0 to +6)		
Independent Variable	Co-efficient	p-value	Adjusted R2
Change in disclosure frequency (0 to +6)	0.014	0.097	0.049
Pre-announcement earnings surprise	-0.054	0.820	
Post-announcement earnings surprise	0.024	0.435	
ROA	2.159	0.110	
Leverage	-0.007	0.670	
Intercept	-0.064	0.325	

$$\text{Stock Return (0,+6)} = \alpha + \beta_1 \text{Change in disclosure frequency(0,+6)} + \beta_2 \text{Pre-announcement earnings surprises} + \beta_3 \text{Post-announcement earnings surprise} + \beta_4 \text{ROA} + \beta_5 \text{Leverage} + \varepsilon$$

All variables are measured as the difference between sample firms and matching firms. The dependent variable is the difference of continuously compounded return from day +3 to day +130 relative to the announcement date of new offering. Independent variable is the change in disclosure frequency in (0, +6) months following the offering announcement, relative to the preceding six month. Pre-announcement earnings surprise and post-announcement earnings surprise are measured as the earnings surprise over the half year before the offering announcement and one year subsequent to the announcement. ROA is measured as the net income summed over the two quarters following the offering divided by the average of total assets over the preceding two quarters. Leverage is the average of book value of liabilities divided by the average of book value of equities over the two quarters following the offering.

Table 7: Regression of (0, +6) stock returns on (0, +6) change in disclosure frequency for difference categories

Disclosure category	Change in disclosure frequency (0 to +6)		
	Co-efficient	p-value	Adjusted R2
All statements	0.014	0.097	0.049
Financial	0.041`	0.287	0.011
Operational	0.032	0.055	0.0697
Forward-looking	0.086	0.179	0.027
Investor conference	0.008	0.646	-0.011
Others	0.0002	0.988	-0.0163

Stock Return (0,+6)= $\alpha + \beta_1 \text{Change in disclosure frequency}(0,+6) + \beta_2 \text{Pre-announcement earnings surprises} + \beta_3 \text{Post-announcement earnings surprise} + \beta_4 \text{ROA} + \beta_5 \text{Leverage} + \varepsilon$

All variables are measured as the difference between sample firms and matching firms. The dependent variable is the difference of continuously compounded return from day +3 to day +130 relative to the announcement date of new offering. Independent variable is the change in disclosure frequency for different categories in (0, +6) months following the offering announcement, relative to the preceding six month. All the control variables remain the same as the regression for disclosure frequency of all statements. To keep simplicity, only the result for change in disclosure frequency is presented in Table 8.

Table 8: Regression of (+6, +12) stock returns on (0, +6) change in disclosure frequency

Independent Variable	Dependent Variable: Return after the announcement (+6 to +12)		
	Co-efficient	p-value	Adjusted R2
Change in disclosure frequency (0 to +6)	-0.015	0.056	0.128
Pre-announcement earnings surprise	-0.478	0.023	
Post-announcement earnings surprise	-0.014	0.620	
ROA	-0.384	0.612	
Leverage	-0.021	0.146	
Intercept	-0.050	0.396	

$$\text{Stock Return (+6,+12)} = \alpha + \beta_1 \text{Change in disclosure frequency(0,+6)} + \beta_2 \text{Pre-offering earnings surprises} + \beta_3 \text{Post-offering earnings surprise} + \beta_4 \text{ROA} + \beta_5 \text{Leverage} + \varepsilon$$

All variables are measured as the difference between sample firms and matching firms. The dependent variable is the difference of continuously compounded return from day +131 to day +260 relative to the announcement date of new offering. Independent variable is the change in disclosure frequency in (0, +6) months following the offering announcement, relative to the preceding six month. All the control variables are the same as the previous regression.

Pre-announcement earnings surprise and post-announcement earnings surprise are measured as the earnings surprise over the half year before the offering announcement and one year subsequent to the announcement. ROA is the net income summed over the two quarters in the 6 to 12 month following the offering, divided by the average of total assets over the preceding two quarters. Leverage is the average of book value of liabilities divided by the average of book value of equities over the two quarters in the 6 to 12 month following the offering.

Table 9: Regression of (+6, +12) stock returns on (0, +6) change in disclosure frequency for different categories

Disclosure category	Change in disclosure frequency (0 to +6)		
	Co-efficient	p-value	Adjusted R2
All statements	-0.015	0.056	0.128
Financial	0.062	0.062	0.125
Operational	-0.038	0.009	0.191
Forward-looking	0.019	0.730	0.051
Investor conference	-0.011	0.416	0.063
Others	-0.018	0.236	0.079

$$\text{Stock Return (+6,+12)} = \alpha + \beta_1 \text{Change in disclosure frequency(0,+6)} + \beta_2 \text{Pre-offering earnings surprises} + \beta_3 \text{Post-offering earnings surprise} + \beta_4 \text{ROA} + \beta_5 \text{Leverage} + \varepsilon$$

All variables are measured as the difference between sample firms and matching firms. The dependent variable is the difference of continuously compounded return from day +131 to day +260 relative to the announcement date of new offering. Independent variable is the change in disclosure frequency for different categories in (0, +6) months following the offering announcement, relative to the preceding six month. All the control variables remain the same as the regression for disclosure frequency of all statements. To keep simplicity, only the result for change in disclosure frequency is presented in Table 10

earning potentials. This is the category where companies could exert most control. As mentioned above, the disclosure law regarding the new equity offering does not explicitly prohibit this kind of disclosure. As can be seen from the result, firm that has one more operational statement compared with the preceding six-month experiences 3.2% greater stock returns. This might encourage the companies to send more operational-related press release around the new offering, which is consistent with our findings in the disclosure analysis.

The association between stock returns and other disclosure category is found to be insignificant. For most financial related press release, it is mainly related to earnings announcement and part of the companies' mandatory disclosure. As can be seen from the disclosure analysis, the frequency of press release disclosure related to financial performance is quite stable around the new offering. So investors tend not to have strong reactions toward this kind of disclosure. In Lang & Lundholm (2000), stock returns has a significantly positive related with the frequency of forward-looking statements. However, no evident association is found in our study. It is possible that compared with before, investors are becoming more aware that firms intentionally use the forward-looking statements to attract the public interest around the new offering.

5.2 Stock return in (+6 to +12) months following the offering announcement

As shown in the previous disclosure analysis and regression result, companies tend to dramatically increase their disclosure frequency in the (0, +6) months following the announcement of the new offering, and the stock market in this period reacts positively to this change with greater returns. However, in the (+6, +12) months, the disclosure level reverts back to the low level before the announcement. This might be explained by the fact that the previous sudden increase in disclosure intensities is actually driven by the intention to hype the stock prices. In the next section, we want to examine whether in this period stock market will correct for the previous hype and have a decreasing return.

The following regression is used to examine the relationship between the stock return over (+6, +12) months following the offering announcement and the change in disclosure frequency in (0, +6).

$$\text{Stock Return (+6, +12)} = \alpha + \beta_1 \text{Change in disclosure frequency (0, +6)} + \beta_2 \text{Pre-offering earnings surprises} + \beta_3 \text{Post-offering earnings surprise} + \beta_4 \text{ROA} + \beta_5 \text{Leverage} + \varepsilon$$

The dependent variable is the difference of continuously compounded return from day +131 to day +260 relative to the announcement date of new offering.

Independent variable is the change in disclosure frequency in (0, +6) months following the offering announcement, relative to the preceding six month. All the control variables are the same as the previous regression.

As can be seen from the regression result in Table 8, the stock return in the (+6, +12) month after the announcement has a negative but significant association with the change in disclosure frequency in the (0, +6) period. Keeping earnings surprise, ROA and leverage constant, firms with one more press release statement in (0, +6) period will experience 1.5% fewer returns in the following half year.

As mentioned before, the disclosure activities in this period decrease dramatically compared with the preceding six month. The decrease in disclosure intensities might make the investors realize that the previous increase was actually an attempt to condition the market and hype the stock price, rather than increase in the informational transparency. Therefore, stock market is decreasing in this period to correct for the previous hype.

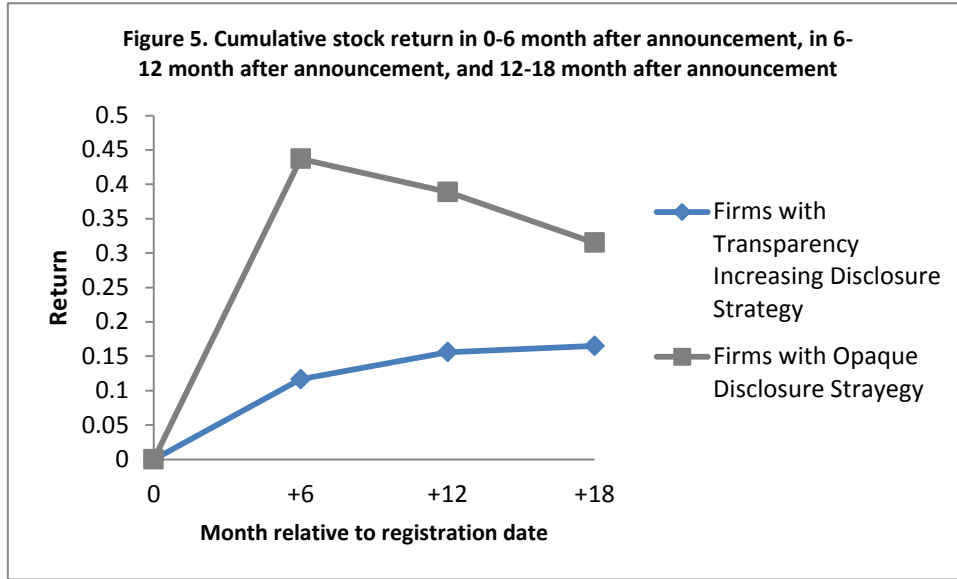
In period (0, +6), the coefficient on the disclosure change is 0.014, which is almost the same as the coefficient -0.015 in period (+6, +12). This suggests that the previous hype in stock price is almost fully corrected half year later. However, in Lang & Lundholm, a post-announcement drift is observed.

The results for different categories of press release are quite similar with the previous test. Only operational related disclosures have significant relation with the stock return. But the coefficient is negative. Therefore, firm with one more disclosure in this category experiences 3.8% decrease in stock return.

6. Stock Reaction to Firms with Different Disclosure Strategy

In order to better interpret the findings in the previous section, we compare the stock market reaction toward firms with different disclosure strategies.

In consistent with Lang & Lundholm (2000) and Jo & Kim (2007), we also divide the companies into two groups – firms with ‘‘transparency increasing’’ disclosure strategy and firms with transparency reducing disclosure strategy. As mentioned above, the transparency increasing disclosure strategy could be identified by the fact that firms increase the disclosure before the offering to reduce information asymmetry, but will sustain the high level even afterwards. On the other hand, firm with transparency reducing disclosure strategy would substantially increase disclosure activity only right before the offering to hype the stock price, but subsequently revert back to low disclosure levels immediately after the offering. To compare the market reaction toward firms with these two different disclosure strategies, we map their stock returns respectively in Figure 5. Lang & Lundholm (2000) plots the return of only two firms to represent each group. To avoid the selection bias, we select top 20% firms with highest increase in disclosure frequency in the 0-6 month after the offering announcement, and top 20% firms with the most consistent disclosure pattern. Therefore, each group consists of 16 firms.



As is described in the graph, in the 0-6 month after the announcement, firms from both groups experience an increase in the stock price. Yet the increase for firms with opaque disclosure strategy is more dramatic. In the 0-6 month after the announcement, the market punishes the opaque disclosure group that hype the stock prices before. The decline continues in 12-18 month post-announcement period.

Our findings regarding stock market reaction toward firms with these two different disclosure strategies are consistent with our Hypothesis 5 and previous researches.

7. Robustness Test

In accordance with Lang & Lundholm (2000), we use the relative return between sample firm and its matching firm as the abnormal return. However, since the process of selecting matching firm might involve certain level of randomness, we add to the robustness of the study by testing the regression of the cumulative abnormal return (CAR) on disclosure frequency. CAR is calculated under both Capital Asset Pricing Model (CAPM) and Fama-French three factor model.. Both of them are widely used in recent literature of asset pricing. The only difference between these two models is that the market factor is the only pricing factor CAPM, while Fama-French three-factor model added two additional pricing factors, the size factor and the factor for book-to-market ratio. Compared with the previous regression, all the variables in the robustness test are calculated only with the data of sample firms. The dependent variable is Market CAR and Fama French CAR respectively. The calculation is described briefly as below.

1) In Market CAR, the following equation holds.

$$R_{jm} - R_{fm} = \alpha + \beta(MKT_m - R_{fm}) + \varepsilon_m$$

where R_{jm} , MKT_m , R_{fm} are respectively stock j 's monthly return, the monthly return of the market portfolio and the risk free interest rate, and ε_m is an error term. The abnormal returns of stock j during month m are then computed as:

$$AR_{jm} = R_{jm} - \hat{\beta}MKT_m$$

2) In Fama-French three-factor model, the following equation follows

$$R_{jm} - R_{fm} = \alpha + \beta_M(MKT_m - R_{fm}) + \beta_{SMB}SMB_m + \beta_{HML}HML_m + \varepsilon_m.$$

In this model, size factor (SMB_m), and the factor for book-to-market ratio (HML_m) are added. We estimate each stock's betas with the monthly market returns and SMB and HML factors from the beginning of 2001 until the end of the 2011. The data of these factors and risk free rate are from French's website.

The abnormal returns of stock j during month m are then computed as:

$$AR_{jm} = R_{jm} - \hat{\beta}_M MKT_m - \hat{\beta}_{SMB} SMB_m - \hat{\beta}_{HML} HML_m$$

For both models, we compute market-model cumulative abnormal returns (MCAR) for each stock as the sum of the abnormal returns in the relevant event window, 0-6 month and 6-12 month period after the announcement of offering.

The finding using Market CAR and Fama French CAR is similar with the finding using matching firms. The regression result is presented in the Appendix B.

8. Conclusions and Future Researches

In this paper we examine the change in disclosure frequency around the new equity offering and further look into the stock price reaction on disclosure activities. All the analysis for sample firms is relative to their matching firms. The following conclusion could be drawn from our studies.

First of all, different from the findings in previous research, issuing firms in our study significantly increase their disclosure activities in the half year immediately following the announcement of new offering, relative to its matching firm. Three possible explanations are suggested in the study: longer waiting period between announcement and issue date of offering, increasing litigation concern, and restriction from lock-up agreement that regulates the selling shareholders. Regarding different categories of press release, as SEC explicitly disallow issue firms to release forecasts of future financial performance; limited increase has been seen in the number of press release relating to future predictions. However, this is compensated

by the increase in operation-related information disclosures, as well as disclosures announcing the participation in the investor conferences.

Then we examine the cross-sectional relationship between the disclosure frequency of sample firms and stock returns. The result shows that stock return of issuing firm increases in the period when companies increase their disclosure activities. However subsequent to this period, stock performance differs among firms, depending on the reasons behind their previous increase in disclosure activities. The stock return continues increasing for firms that use the disclosure to improve the information transparency and lessen the post-issue underperformance. By comparison, stock return decreases for firms that use the change in disclosure frequency to actually decrease information transparency and thus hype the stock price around the stock issue. This finding is consistent with the previous researches.

Future Research

As mentioned above, increasing litigation concern, and restriction from lock-up agreement are among the possible reasons that might explain the increase in disclosure activities in the half year after the offering announcement. However, more empirical finding should be provided to further support these two claims. To examine the restriction from lock-up agreement, future research could look at the percentage of selling shareholders that participate in the offering for our sample firms. Regarding legal concern, 1933 Securities Act remains, the main law regulating the equity offering, has not gone through fundamental changes over the past years. Yet different empirical result has been seen compared with previous researches. This might be due to the changing enforcement mechanism over years. It is therefore worthwhile for future research to examine whether issue firms have more litigation exposure than before

Besides, our study also shows that the time span between announcement of the new offering and the actual sale of stock is much longer than the previous research. The average time difference in our sample firms is almost half year. It is therefore interesting to look into the reason behind the difference and also test whether there would be different findings if the actual sale date is set as the event date.

References

Academic References

- Botosan, C., 1997. Disclosure level and the cost of equity capital. *The Accounting Review* 72: 305–333.
- Botosan, C.A., Harris, M.S., 2000. Motivations for a Change in Disclosure Frequency and Its Consequences: An Examination of Voluntary Quarterly Segment Disclosures. *Journal of Accounting Research* 38 (2):329-353.
- Clarkson, P., Kao, J., Richardson, G., 1999. Evidence that management discussion and analysis (MD&A) is a part of a firm's overall disclosure package. *Contemporary Accounting Research* 16: 111-134.
- Francis, R., Philbrick, D., Schipper, K., 1994. Shareholder litigation and corporate disclosure. *Journal of Accounting Research* 32: 137-164.
- Frankel, R., McNichols, M., Wilson, G.P., 1995, Discretionary Disclosure and External Financing. *The Accounting Review* 70 (1): 135-50.
- Frankel, R., Johnson, M., Skinner, D.J., 1999, An Empirical Examination of Conference Calls as a Voluntary Disclosure Medium, *Journal of Accounting Research* 37 (1): 133-150.
- Field, L., Hanka, G., 2001. The expiration of IPO share lockups. *Journal of Finance* 56: 471-500.
- Gibbins, M., Richardson A.J. and Waterhouse J.H., The Management of Corporate Financial Disclosure: Opportunism, Ritualism, Policies and Processes. *Journal of Accounting Research* (Spring 1990): 121-143.
- Healy, P., Palepu, K., 1993. The effect of firms' financial disclosure on stock prices. *Accounting Horizons* 7: 1-11.
- Healy, P., Palepu, K., 2001. Information asymmetry, corporate disclosure and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics* 31: 405-440.
- Jo, H., Kim, Y., 2007. Disclosure frequency and earnings management. *Journal of Financial Economics* 84: 561-590.
- Jones, C., S. Weingram. 1997. The effects of insider trading, seasoned equity offerings, corporate announcements, accounting restatements, and SEC enforcement actions on 10b-5 litigation risk. Working paper, Stanford Law School.

- Lang, M.H., Lundholm, R.J., 1996. Corporate disclosure policy and analysts behavior. *The Accounting Review* 71: 467-492.
- Lang, M.H., Lundholm, R.J., 2000. Voluntary disclosure and equity offerings: reducing information asymmetry or hyping the stock? *Contemporary Accounting Research* 17, 623-662.
- Marquardt, C.A., Wiedman, C.I., 1998. Voluntary Disclosure, Information Asymmetry, and Insider Selling through Secondary Equity Offerings. *Contemporary Accounting Research* 15(4): 505-37
- Rangan, S., 1998. Earnings management and the performance of seasoned equity offerings. *Journal of Financial Economics* 50: 101-122.
- Rees, L., Gill, S., Gore, R., 1996. An investigation of asset write-downs and concurrent abnormal accruals. *Journal of Accounting Research* 34: 157-169.
- Ruland, W., S. Tung, and N. E. George. 1990. Factors associated with the disclosure of managers' forecasts. *The Accounting Review* 65 (3): 710-721.
- Schrand, C., Verrecchia, R.E., 2004. Disclosure choice and cost of capital: evidence from underpricing in initial public offerings. Working paper. University of Pennsylvania.

Lawsuit Reference

Keeping Current with Form 8-K: A Practical Guide. July 2008

Securities Act of 1933, 15 USC, section 77.

Securities and Exchange Commission (SEC). 1957. Publication of information prior to or after the effective date of a registration statement. Securities Act release no. 33-3844 (October 8, 1957), 1957 WL 3605.

---. 1971. *Guidelines for the release of information by issuers whose securities are in registration*. Securities Act release no. 33-5180 (August 16, 1971), WL-11224.

---. 1998. *The regulation of securities offerings*. Securities Act release no. 33-7606 (November 3, 1998).

Disclosure Reference

1. Headwaters Inc, 2005. *Headwaters Incorporated Announces Record Results for Fiscal 2005*. [press release], 8 November 2005, Available at:
<<http://global.factiva.com/sb/default.aspx>>
2. Headwaters Inc, 2005. *Headwaters Incorporated Announces It Has Acquired Assets of Max Manufacturing & Roofing, LLC*. [press release], 10 October 2005, Available at:
<<http://global.factiva.com/sb/default.aspx>>
3. Brady Corp, 2007. *Brady Corporation Reports Preliminary Results for Second Quarter Ended January 31, 2007*. [press release], 8 February 2007, Available at:
<<http://global.factiva.com/sb/default.aspx>>
4. MasTec, 2007. *MasTec Announces Closing of Discontinued State Department of Transportation Projects and Assets Sale*. [press release], 15 February 2007, Available at:
<<http://global.factiva.com/sb/default.aspx>>
5. BARRETT BUSINESS SVCS INC, 2005. *BBSI Announces Acquisition of Pro HR, LLC*. [press release], 20 December 2005, Available at:<<http://global.factiva.com/sb/default.aspx>>
6. Brady Corp, 2007. *Brady Corporation Declares Quarterly Dividend to Shareholders*. [press release], 16 May 2007, Available at:<<http://global.factiva.com/sb/default.aspx>>
- 7-1. Headwaters Inc, 2005. *Headwaters Incorporated Announces Chief Financial Officer Retiring*. [press release], 20 September 2005, Available at:
<<http://global.factiva.com/sb/default.aspx>>
- 7-2. COLUMBUS MCKINNON CORP, 2005. *Columbus McKinnon Adjusts Accounting Treatment on Headquarters Property Sale*. [press release], 16 February 2005, Available at:
<<http://global.factiva.com/sb/default.aspx>>
8. Headwaters Inc, 2005. *Headwaters Incorporated to Present at the Morgan Stanley Small Cap Conference in NYC*. [press release], 8 June 2005, Available at:
<<http://global.factiva.com/sb/default.aspx>>

Appendix:

Appendix A: List of Sample Firms and Matching Firms

Sample Firms	FYR	XCHG	SIC	Matching Firms	FYR	XCHG	SIC
Asbury Automotive Group Inc	12	1	5500	RUSH ENTERPRISES INC	12	1	5500
AMN Healthcare Services Inc	12	1	7361	CDI CORP	12	1	7361
Alliance Imaging Inc	12	1	8071	REHABCARE GROUP INC	12	1	8060
Alaska Air Group Inc	12	1	4512	EXPRESSJET HOLDINGS INC	12	1	4512
Avnet Inc	6	1	5065	ARROW ELECTRONICS INC	6	1	5065
Axsys Technologies Inc	12	3	3640	LAMSON & SESSIONS CO	12	3	3640
Barrett Business Services Inc	12	3	7363	RCM TECHNOLOGIES INC	12	3	7363
BioDelivery Sciences Intl Inc	12	3	2834	ROCKWELL MEDICAL INC	12	3	2834
Brady Corp	7	1	3999	WMS INDUSTRIES INC	7	1	3999
BTU International Inc	12	3	3559	JMAR TECHNOLOGIES INC	12	3	3559
Boyd Gaming Corp	12	1	7990	STATION CASINOS INC	12	1	7990
Continental Airlines Inc	12	1	4512	EXPRESSJET HOLDINGS INC	12	1	4512
Central Garden & Pet Co	9	3	5190	SCIELE PHARMA INC	9	3	5190
Collectors Universe Inc	6	3	7389	INTERMUNE INC	6	3	7389
Columbus McKinnon Corp	3	3	3530	GULF ISLAND FABRICATION INC	3	3	3530
Century Casinos Inc	12	3	7990	RIVIERA HOLDINGS CORP	12	3	7990
Diodes Inc	12	3	3674	ESS TECHNOLOGY INC	12	3	3674
Digital River Inc	12	3	5045	INSIGHT ENTERPRISES INC	12	3	5045
Dril-Quip Inc	12	1	3533	TESCO CORP	12	1	3533
DURECT Corp	12	3	2834	ONCOTHYREON INC	12	3	2834
Dawson Geophysical Co	9	3	1382	BARNWELL INDUSTRIES	9	2	1311
Bottomline Technologies Inc	6	3	7372	ASPEN TECHNOLOGY INC	6	3	7372

Sample Firms	FYR	XCHG	SIC	Matching Firms	FYR	XCHG	SIC
Eaton Corp	12	1	3620	ROCKWELL AUTOMATION	12	1	3620
Fuelcell Energy Inc	10	3	3629	MULTI-FINELINE ELECTRON INC	10	3	3629
Fleetwood Enterprises Inc	4	1	3792	SUPERIOR INDUSTRIES INTL	4	1	3792
Gehl Co	12	3	3531	GULF ISLAND FABRICATION INC	12	3	3531
Genesis Energy LP	12	1	5172	ADAMS RESOURCES & ENERGY	12	2	5172
GSI Commerce Inc	12	3	5961	MATRIA HEALTHCARE INC	12	3	5961
Hain Celestial Group Inc	6	3	2000	SUNOPTA INC	6	3	2000
Harmonic Inc	12	3	3663	AUDICODES LTD	12	3	3663
Hovnanian Enterprises Inc	10	1	1531	BEAZER HOMES USA INC	10	1	1531
Headwaters Inc	9	1	2990	ELKCORP	9	1	2990
Inter Parfums Inc	12	3	2844	STEPAN CO	12	3	2844
ThermoGenesis Corp	6	3	3821	NANOMETRICS INC	6	3	3821
Lifetime Brands Inc	12	3	3420	COMPX INTERNATIONAL INC	12	3	3420
Ladish Co Inc	12	3	3724	ALABAMA AIRCRAFT INDUSTRIES	12	3	3724
The Middleby Corp	12	3	3580	TENNANT CO	12	1	3580
Mobile Mini Inc	12	3	3443	DREW INDUSTRIES INC	12	3	3443
MasTec Inc	12	1	1623	WILLBROS GROUP INC	12	1	1623
World Fuel Services Corp	12	1	5172	SCIELE PHARMA INC	12	1	5172
Myriad Genetics Inc	6	3	2835	ENZON PHARMACEUTICALS INC	6	3	2835
NPS Pharmaceuticals Inc	12	3	2836	TANOX INC	12	3	2836
NuCO2 Inc	6	3	5090	PARK OHIO HOLDINGS CORP	12	3	5072
Online Resources Corp	12	3	7374	CASS INFORMATION SYSTEMS I	12	3	7389
OXiGENE Inc	12	3	2836	CELSION CORP	12	3	2836
Oyo Geospace Corp	9	3	3829	CABG MEDICAL INC	9	3	3829

Sample Firms	FYR	XCHG	SIC	Matching Firms	FYR	XCHG	SIC
Plains All American Pipeline	12	1	4220	LANDSTAR SYSTEM INC	12	3	4213
Panacos Pharmaceuticals Inc	12	3	2836	TAPESTRY PHARMACEUTICALS	12	3	2836
Packaging Corp of America	12	1	2650	SONOCO PRODUCTS CO	12	1	2650
Photronics Inc	10	3	3670	MULTI-FINELINE ELECTRON INC	10	3	3670
Regal Beloit Corp	12	1	3621	FRANKLIN ELECTRIC CO INC	12	3	3621
Schawk Inc	12	1	2790	M & F WORLDWIDE CORP	12	1	2780
SkyWest Inc	12	3	4512	EXPRESSJET HOLDINGS INC	12	1	4512
Argon ST Inc	9	3	3812	CTI MOLECULAR IMAGING INC	9	3	3812
Southwestern Energy Co	12	1	4923	SOUTHWEST GAS CORP	12	1	4923
USA Truck Inc	12	3	4213	QUALITY DISTRIBUTION INC	12	3	4213
Vital Signs Inc	9	3	3841	PHOTON DYNAMICS INC	9	3	3841
The Wet Seal Inc	1	3	5650	DESTINATION MATERNITY CORP	9	3	5621
Ceradyne Inc	12	3	3290	NANOPHASE TECHNOLOGIES C	12	3	3290
Lionbridge Technologies Inc	12	3	7372	ZI CORP	12	3	7372
NII Holdings Inc	12	3	4812	HUTCHISON TELECOMMUNICAT	12	3	4812
Omnicare Inc	12	1	5912	OFFICE DEPOT INC	12	1	5912
Progressive Gaming Intl Corp	12	3	3990	MULTIMEDIA GAMES HOLDING C	12	3	3990
Terremark Worldwide Inc	3	3	7370	NETSCOUT SYSTEMS INC	3	3	7370
PHI. INC	12	3	4522	AIR METHODS CORP	12	3	4522
AirTran Holdings Inc	12	1	4512	EXPRESSJET HOLDINGS INC	12	1	4512
American Superconductor Corp	3	3	3621	IXYS CORP	3	3	3674
ARIAD Pharmaceuticals Inc	12	3	2836	INTERMUNE INC	12	3	2836
Cosi Inc	12	3	5812	FAMOUS DAVES OF AMERICA IN	12	3	5812
CRA International Inc	12	3	8780	DECODE GENETICS INC	12	3	8731

Sample Firms	FYR	XCHG	SIC	Matching Firms	FYR	XCHG	SIC
Cypress Bioscience Inc	12	3	2836	INTERMUNE INC	12	3	2836
Dendreon Corp	12	3	2836	TANOX INC	12	3	2836
Equinix Inc	12	3	4813	J2 GLOBAL INC	12	3	4813
Gardner Denver Inc	12	1	3560	COINSTAR INC	12	1	3560
Golden Star Resources Ltd	12	2	1040	CRYSTALLEX INTERNATIONAL C	12	2	1040
MarineMax Inc	9	1	5500	RUSH ENTERPRISES INC	9	1	5500
Microvision Inc	12	3	3679	MICROTUNE INC	12	3	3679
MEMC Electronic Materials Inc	12	1	3674	ARM HOLDINGS PLC	12	3	3674
Watts Water Technologies Inc	12	1	3490	SILGAN HOLDINGS INC	12	1	3490
ZymoGenetics Inc	12	3	2836	MINERALS TECHNOLOGIES INC	12	3	2836

Notes:

FYR= Month of the fiscal year-end.

XCHG= Security exchange the stock trades on, where NMS is the National Market System of the NASDAQ.

SIC= Firm's Standard Industrial Classification code.

Appendix B:

1) Regression of (0, +6) CAR on (0, +6) change in disclosure frequency

Independent Variable	Dependent Variable: Market CAR after the announcement (+1 to +6)		Dependent Variable: Fama French CAR after the announcement (+1 to +6)	
	Co-efficient	p-value	Co-efficient	p-value
Change in disclosure frequency (0 to +6)	0.015	0.041	0.015	0.042
Pre-announcement earnings per share	-0.369	0.000	-0.357	0.001
Post-announcement earnings per share	0.095	0.000	0.095	0.000
Pre-announcement earnings surprise	0.244	0.259	0.190	0.372
Post-announcement earnings surprise	-0.143	0.111	-0.129	0.144
Size	-0.058	0.311	-0.065	0.252
ROA	-0.397	0.387	-0.423	0.350
Market beta	0.112	0.026	-0.112	0.024
Intercept	0.219	0.174	0.221	0.163
Adjusted R2	0.321		0.338	

$Post-offering\ return(0,+6) = \alpha + \beta_1 Disclosure\ frequency(-6,0) + \beta_2 Change\ in\ disclosure\ frequency(-6,0) + \beta_3 Pre-offering\ earnings\ per\ share + \beta_4 Post-offering\ earnings\ per\ share + \beta_5 Pre-offering\ earnings\ surprises + \beta_6 Post-offering\ earnings\ surprise + \beta_7 Size + \beta_8 ROA + \beta_9 Market\ beta + \varepsilon$

2) Regression of (+6, +6) CAR on (0, +6) change in disclosure frequency

	Dependent Variable: Market CAR after the announcement (+7 to +12)		Dependent Variable: Fama French CAR after the announcement (+7 to +12)	
Independent Variable	Co-efficient	p-value	Co-efficient	p-value
Change in disclosure frequency (0 to +6)	-0.011	0.081	-0.013	0.034
Pre-announcement earnings per share	0.166	0.148	0.082	0.459
Post-announcement earnings per share	-0.030	0.269	-0.298	0.233
Pre-announcement earnings surprise	-0.308	0.231	-0.020	0.445
Post-announcement earnings surprise	0.250	0.019	0.256	0.014
Size	-0.040	0.607	0.064	0.399
ROA	0.099	0.854	-0.257	0.627
Market beta	-0.015	0.789	-0.022	0.700
Intercept	-0.014	0.952	-0.256	0.274
Adjusted R2	0.079		0.156	

$Post-offering\ return(+6,+12) = \alpha + \beta_1 Disclosure\ frequency(-6,0) + \beta_2 Disclosure\ frequency(+6,+12) + \beta_3 Change\ in\ disclosure\ frequency(+6,+12) + \beta_4 Pre-offering\ earnings\ per\ share + \beta_5 Post-offering\ earnings\ per\ share + \beta_6 Pre-offering\ earnings\ surprises + \beta_7 Post-offering\ earnings\ surprise + \beta_8 Size + \beta_9 ROA + \beta_{10} Market\ beta + \varepsilon$