Managing News Coverage around Initial Public Offerings

Chia-Cheng Ho
Department of Finance
College of Management
National Chung Cheng University
Chia-Yi, Taiwan, Republic of China

Chi-Ling Huang
Department of Finance
College of Management
National Chung Cheng University
Chia-Yi, Taiwan, Republic of China

and

Chien-Ting Lin*
Adelaide Graduate School of Business &
School of Commerce
University of Adelaide
233 North Terrace
Adelaide SA 5005 Australia
edward.lin@adelaide.edu.au
Tel: 08-8303-6461
Fax: 08-8223-4782

*Corresponding author

Managing News Coverage around Initial Public Offerings

Abstract

The unique features of the regulatory environment in Taiwan where IPO firms are required to disclose their own earnings forecasts as part of the IPO application process and are unrestricted in releasing news around the offerings allow us to investigate their opportunistic behaviour from entirely new perspectives. We find that prior to the offerings, IPO firms tend to report higher earnings, disclose overoptimistic earnings forecasts, and manage more good news. When considered altogether, the news management practice emerges as the most influential factor on post-IPO stock prices. In particular, news reports tend to be forward looking when they are positive about the IPO firms but mostly backward looking when the bad events have already been realized. Furthermore, IPO firms prefer to release good news related to Strategy/Policy, which is relatively easy to make since news of the type only provides a vision of a firm's future. Our evidence seems to justify the strict enforcement of gun-jumping prohibition regulation, typified by section 5(c) of the 1933 Security Act in the U.S.

JEL classification: G30, G32.

Keywords: Earnings management, Earnings forecasts, News management, Initial public offerings, and Taiwan stock market.

1. Introduction

The pioneering work of Ritter (1991) on the long-run underperformance of initial public offerings (IPOs) has been complemented by Jain and Kini (1994) and Mikkelson et al. (1997), who document a significant decline in operating performance for IPO firms from the year prior to the offerings to 1-3 years subsequent to the offerings. The received wisdom is that IPO firms tend to perform poorly after the offerings.[1] Many academic researchers have therefore been devoted to explaining why IPO firms have poor long-run performance.

A number of studies have attributed the poor long-run aftermarket performance to the asymmetric information phenomenon documented by Leland and Pyle (1977), Allen and Faulhaber (1989), and Welch (1989), among others. Information asymmetry proscribes the fair pricing of an IPO firm, and when investors are over-optimistic, the value of the firm tends to be inflated. Ritter (1991, p. 4) interprets such poor long-run performance to be consistent with "a scenario of firms going public when investors are irrationally over-optimistic about the future potential of certain industries." Daniel et al. (1998) also argue that investor overconfidence, coupled with biased self-attribution, can be responsible for the long-run reversal in stock prices.

However, naïve investors should not be the only party to blame for the long-run underperformance of IPO firms. Information asymmetry could also provide an opportunistic environment to an issuer. A firm going public may take advantage of the uninformed investors due to the high and costly information barrier. Ang and Brau (2003) find that managers of IPO firms undertake contrived concealment strategies in a multi-stage IPO process to maximize their personal wealth. This echoes the essence of the opportunistic management behaviour of an IPO firm at the offering. However, as the IPO firm becomes more transparent due to disclosure

[1] With the exception of some Asian markets such as Korea, Singapore, and Malaysia, the empirical consensus on the issue across international borders appears to suggest that IPO firms experience a long-run decline in market value relative to the market and matching firms after the offerings. See Ritter (1991), and Ritter and Welch (2002) for the United States, Levis (1993) for the UK, Keloharju (1993) for Finland, Lee et al. (1996a) for Australian, Firth (1997) for New Zealand, Lyn and Zychowicz (2003) for Hungary and Poland, Aggarwal et al. (1993) for Latin America, Cai and Wei (1997) for Japan, Lee et al. (1996b) for Singapore, Corhay (2002) for Malaysia, and Kim et al. (1995) for Korea. An extensive survey on the issue could be found in Loughran et al. (1994).

regulations on a publicly listed firm and more careful scrutiny by the market, and given that the concealment strategies are unlikely to be sustainable in the long run, investors will revise their valuation downward on the firm accordingly. Consequently, the IPO firm would underperform in the aftermarket, compared to its non-IPO counterparts.[2]

It has been long documented that stock prices are positively correlated with reported earnings (e.g., Ball and Brown, 1968; Ball, 1978; Watts, 1978; Rendleman et al., 1982). To increase proceeds of the offerings, IPO firms may inflate their reported earnings prior to the offerings using discretionary accounting procedure by adopting, for example, favorable depreciation and account receivable policies that are earnings friendly. Friedlan (1994) provides evidence that is consistent with this type of earnings management engaged by firms prior to their IPOs. Furthermore, Aharony et al. (1993) shows that earnings management practices are more prevalent among small and highly-leveraged firms. In two comprehensive studies, Teoh et al. (1998a, 1998b) document a significant linkage between discretionary accruals in the IPO year and subsequent three-year stock returns. They find that the IPO-year abnormal accruals are significantly and negatively related to post-issue earnings. DuCharme et al. (2001) and DuCharme et al. (2004) also provide further evidence supporting the opportunism hypothesis.[3]

Closely related to the earnings literature, earlier studies such as Foster (1973), Patell (1976), Nichol and Tsay (1979), and Waymire (1984) suggest that stock market also respond to management earnings forecast announcements. Skinner (1994) and Hutton et al. (2003) recently

[2] Schultz (2003), on the other hand, advances a pseudo market timing explanation to rationalize the long-run aftermarket underperformance of IPO firms in an efficient market. The essence of the pseudo market-timing hypothesis is that IPO firms are likely to herd into the market when they observe an increase in stock prices, which is consistent with the clustering phenomenon documented by Loughran et al. (1994) that the number of IPOs is positively associated with the aggregate market level. As a result, most IPOs tend to occur at market peaks, entailing abnormally poor long-run returns for these IPO firms.

[3] In addition to being a competing hypothesis, the overreaction hypothesis can in fact coexist with the opportunism hypothesis such as the well-known earnings management hypothesis. In particular, the overreaction hypothesis has the same directional effect on stock prices as the earnings management hypothesis. If investors really overreact in the IPO process, we are likely to witness more pronounced stock price reversals. Hence, researchers have considerable difficulty separating these two effects when they examine the stock price reversals subsequent to the offerings. However, the overreaction hypothesis cannot explain why post-issue earnings decline rapidly. Therefore, the price reversals subsequent to the offerings, along with the decrease in post-issue earnings, seem heavily weighted in favor of the earnings management hypothesis.

show that stock prices react asymmetrically to good news and bad news management earnings forecasts. Although there have been abundant studies of the type on U.S. companies, almost none of them relate the issue to initial public offerings due primarily to the fact that earnings forecasts by executives are prohibited prior to initial public offerings in the U.S.

However, voluntary disclosure of management earnings forecasts in IPO prospectuses is permitted in some markets outside the U.S.[4] Together with the corroborative evidence for the informational content of management earnings forecasts, the concurrence of the discretionary disclosure of management earnings forecasts and a specific event such as IPO may provide another window of opportunism for IPO firms. Consistent with this line of argument, Keasey and McGuinness (1991), Clarkson (2000), and Brown et al. (2000) find earnings forecasts in the IPO prospectuses are optimistically biased for UK, Canada, and Australia respectively. Jog and McConomy (2003) also report that Canadian IPO firms with optimistic earnings forecasts tend to perform worse for the 2-year period after the offerings. To our knowledge, the only study to the contrary is by Cheng and Firth (2000) who find that earnings forecasts for IPO firms in Hong Kong are actually downward biased.

In this study, we investigate another form of opportunism that entrepreneurs might pursue during the IPO years. Besides inflating realized and/or forecasted earnings prior to the offerings, issuers can also influence investors' views on the prospects of the firms via news announcements in the media. For instance, by talking up their strategic plans and/or operational advantages that could increase their market shares and profitability, IPO firms can raise market expectations on their subsequent performance. The issuers can also engage in public relation by adopting strong corporate governance measures and socially responsible policies that present

[4] Many studies have explored the issues related to voluntary disclosure of management earnings forecasts in IPO prospectuses. See, for example, Keasey and McGuinness (1991) for the United Kingdom, Clarkson et al. (1992), and Jog and McConomy (2003) for Canada, Brown et al. (2000) for Australia, and Cheng and Firth (2000) for Hong Kong.

them as a good and ethical corporate citizen.[5] The purpose of these media exercises is therefore to convey a positive image to the public and boost the demand on their stocks. Analogous to the well-documented earnings management, we call these practices news management.

Due possibly to the enforcement of section 5(c) of the Securities Act, which prohibits any undue actions a firm might take to influence the public's views on the value of the firm prior to its equity offering, there have almost been no studies explicitly examining the relationship between IPO firms' news releases around the offerings and their subsequent performance. The regulation essentially imposes a so-called "quite period" prior to the completion of an offering. During the quiet period, IPO firms are banned from making statements relating to the value of their shares. For example, they should not make forward-looking statements on their future performance such as earnings forecasts. Nevertheless, it does not prevent IPO firms to issue other types of information. In fact, Lang and Lundholm (2000) who investigate corporate disclosure activity around seasoned equity offerings find that issuers' disclosure activity increases significantly during the 6-month period prior to the offerings but little change in disclosure frequency over the 1-year interval preceding the 6-month period. They suggest that issuers increase disclosure to hype up their stocks. In addition, they show that the increase in corporate disclosure activity comes from all but forward-looking statements, which are prohibited by section 5(c) of the Securities Act.

Unlike the equity offering regulatory environment in the United States, there is no regulation on news announcements of issuers around IPOs in Taiwan. IPO events in Taiwan hence provide a fertile ground for us to investigate whether news management can be a potential explanation for the subsequent performance of the IPO firms. Furthermore, our focus on IPO firms rather than existing listed firms has considerable merit. IPO firms are less

[5] A firm can strengthen its corporate governance by for example, increasing the number of independent directors, establishing independent audit and executive compensation committee, and separating the CEO from the chairman of the board. Similarly, a firm could become an ethical corporate citizen by implementing sound environmental policies and establishing foundations for charitable contributions.

transparent and have not been well scrutinized by the market such that they can serve as a prime sample for insider's opportunistic behaviour.

In addition, several other unique characteristics of the Taiwanese stock market may provide further insights into the opportunistic behaviour of the issuers and therefore policy implications. First, unlike other IPO environments, IPO shares come solely from the existing shareholders. Therefore, the higher are the proceeds from the offerings, the better off are the issuers. Such arrangement provides further incentives for the issuers to manage the IPO process. Second, there is no lock-up period for an IPO in Taiwan. Hence, a firm's shares will be traded under the normal market environment and their prices will be governed by prevailing market forces, once the firm becomes listed. Third, unlike IPO firms in other markets where management earnings forecasts are either prohibited or optional, IPO firms in Taiwan have been required to supply their earnings forecasts for the IPO fiscal year along with their applications for the offerings since June of 1991. Therefore, after taking these regulatory and market features into account, multiple forms of opportunism are available to the IPO firms. Finally, although the literature related to IPOs is now quite extensive, most of which is concentrated on the events in the U.S. or other developed markets. Therefore, little is known about the IPO pricing behaviour in a less matured market. Our investigation on IPOs in the Taiwanese stock market, an emerging market, could shed light on that regard.

Consistent with recent studies, we find that prior to the offerings, IPO firms tend to disguise themselves as those with good prospects. These Issuers also intend to make use of every opportunity to maximize their own personal wealth. Our investigation yields several specific results. First, IPO firms appear to engage in earnings window dressing prior to the offerings as their post-offering earnings tend to decline.

Second, earnings forecasts disclosed by IPO firms are systematically upward biased. These mandatory forecasted earnings are more optimistic than the voluntarily disclosed earnings forecasts by IPO issuers in other markets. It therefore suggests that rather than using the

earnings forecasts to reduce the information asymmetry, the compulsory disclosure may provide these firms with an additional window of opportunism.

Third, in accordance with the news management hypothesis, news reports prior to the offerings are on average more positive and favourable to the firms. We find that the percentage of good news prior to the offerings is significantly greater than that after the offerings. In particular, when news reports are sorted into different categories, those that are in the Strategy/Policy category are the only ones that experience a decline from the pre-offering to the post-offering period. It is worthwhile noting that the magnitude of the decline is a drastic 58.26%. Furthermore, news reports of this kind show up most frequently and are the dominant type of good news before the offerings. Unlike other types of news, Strategy/Policy news is relatively easy to create since it could simply portray a blueprint or a vision of a firm and hype up its future prospect. The ease of making the news along with the informational opaqueness of firms before the IPOs allows more opportunities for issuers to bias the news coverage. For these reasons, news in the Strategy/Policy category may be the most preferred type of news coverage to boost firms' image with investors prior to the offerings.

We further divide news reports between those of "forward-looking" and "historical" types. Around the time of the offerings, we find that the proportion of forward-looking statements within the good news category is more than twice of that in the bad news category. On the other hand, IPO firms disclose bad events mostly when they already had occurred. The disparity of the disclosures is much larger in the pre-offering period than in the post-offering period. When considered all the evidence together, it suggests that IPO firms are more likely to make public disclosure and sell themselves as having good prospects via forward-looking news statements. Overall, it seems that the excessive use of forward-looking statements prior to the offerings can serve as a justification for the strict enforcement of regulations on an IPO process such as section 5(c) of the Securities Act in the U.S.

Finally, we document that earnings management, conceited earnings forecasts, and news management are highly correlated with stock performance subsequent to the offerings. The

more extensive the opportunistic behaviour engaged by the issuers, the larger is the decline in the subsequent stock returns of the IPO firms. This may imply that naïve or uniformed investors tend to be the biggest losers in the IPO process. When we examine the three concealment strategies concurrently, the effects of earnings management and conceited earnings forecasts are mostly absorbed by news management as it continues to show a strong relationship with subsequent stock performance. These results are not surprising given that the news reports are released on a continual basis and spread over the offering period while realized and forecasted earnings are revealed at specific time points and form a subset of news reports.

In sum, the results of the study indicate that media disclosures about the IPO firms prior to the offerings provide little enlightenment on the future of the firms and are more likely to be unfounded promises. IPO firms on average are more likely to exploit the window of opportunity rather than using it to reduce the information asymmetry between issuers and investors.

The rest of the paper is organized as follows. Along with a background introduction of the Taiwanese stock market, Section 2 describes the IPO sample selection process, calculates their initial and long-run returns, and presents the summary statistics for various characteristics of the sample. In Section 3, we investigate the three concealment strategies and their relationships with aftermarket performance of the IPO firms. In Section 4, we check the robustness of the findings. Section 5 concludes the paper.

2. Data and IPO performance

2.1. Sample Selection

Excluding IPOs of financial firms, heretofore state-owned enterprises and those with incomplete financial or return data for the study, we collect a final sample of 183 industrial firms going public for the first time in Taiwan between June 1991 and December 2000. The sample period is chosen to coincide with the new disclosure regulation beginning in June 1991. Under the new rule, all issuers are required to publicly disclose their financial forecasts for the IPO fiscal year. To ensure that all IPO firms fall under the same regulatory environment, IPOs

before June 1991 are excluded. All financial and return data are obtained from Taiwan Economic Journal (TEJ) database. The breakdown of the 183 IPOs exhibits an unevenly distributed pattern across the 18 industries classified by the two-digit Standard Industry Code. In particular, 65 IPOs come from the Computer Products industry, 24 from Construction, 18 from Textiles, 14 from Steel Products, 12 from Electrical Equipment, and the rest scatter over the other 13 industries with a maximum of 9 IPOs and a minimum of zero IPO. As expected, computer-related firms dominate the Taiwanese IPO market with 35.52% of the total sample. The distribution of these firms reflects the importance of the Computer Products sector, which has become the main driver of the Taiwanese economy for the last 15 years.[6]

2.2. Stock returns of IPO firms

We begin our analysis on the IPO pricing behaviour by defining IPO firms' initial returns. Unlike the U.S. stock market where the majority of the studies have conducted, Taiwan stock market imposes daily limit on stock price movements. Therefore, it may take more than a few days to fully reflect the fair value of the newly listed stock. To overcome this price movement restriction, we take the closing price of the day on which the closing price falls within the daily limit for the first time to be the first-day market price of IPO shares. Hence, the initial return for firm i, IR_i, and the initial abnormal (market-adjusted) return, IAR_i are respectively defined as:

$$IR_i = \frac{CP_i - OP_i}{OP_i} \tag{1}$$

$$IAR_i = IR_i - \left[\prod_{t=1}^{D_{i,F}} (1 + R_{M,t}) - 1 \right] \tag{2}$$

[6] For example, according to Ministry of Economic Affairs in Taiwan, Taiwanese computer firms make 58% of the world's laptop computers and 90% of PC motherboards in 2002.

where $D_{i,F}$ is the day on which firm $i's$ daily closing price dose not exceed the daily limit for the first time, CP_i is firm $i's$ closing price on day $D_{i,F}$, OP_i is the offering price, and $R_{M,t}$ is the market return on day t.

For the long-run buy-and-hold return of an IPO firm, we compound the daily returns from the following day after the closing price first falls within the price limit to the end of the next fiscal year.[7] The market-adjusted long-run return of the IPO firm is further estimated by subtracting the corresponding daily compounded market returns from the long-run buy-and-hold return.

$$LR_i = \prod_{t=B_i}^{E_i}(1 + R_{i,t}) - 1 \tag{3}$$

$$LAR_i = \prod_{t=B_i}^{E_i}(1 + R_{i,t}) - \prod_{t=B_i}^{E_i}(1 + R_{M,t}) \tag{4}$$

where LAR_i is firm $i's$ market-adjusted buy-and-hold return,[8] $R_{i,t}$ and $R_{M,t}$ are returns for firm i and the market on day t respectively, B_i is the following day after firm $i's$ closing price first falls within the daily limit, and E_i is the end of the next fiscal year corresponding to

[7] The 183 IPO firms examined here all have the December fiscal year-end.

[8] As documented by Barber and Lyon (1997), Kothari and Warner (1997), and Lyon et al. (1999), the significance test of long-run abnormal buy-and-hold returns can be problematic. Despite of the shortcoming, the study chooses to use the buy-and-hold return to measure the long-run performance of IPO firms. The reasons are four-fold. First, the buy-and-hold measure makes it easy to compare the results of the study with those of prior studies on IPOs, most of which use the buy-and-hold approach to measuring long-run performance. Second, investors prefer to use the buy-and-hold return to evaluate their investment strategies. Third, our buy-and-hold returns span over intervals with an average of only 18 months, which is much shorter than the three-year period. Fourth and most importantly, the primary concern of the study is to investigate whether there exists opportunistic behavior of insiders and if exists, its relation with the aftermarket performance of IPO firms rather than how IPO firms as a whole perform in the long run.

firm i. Since our objective here is to match the last day of the long-run return with the fiscal year-end, we do not calculate individual long-run returns over a fixed time interval.[9]

Consistent with prior evidence of the underpricing of IPO firms, Panel A of Table 1 shows that the initial return and the market-adjusted initial return are 14.92% and 14.81% respectively, both statistically significant at the 1 percent level. On average, it takes 2.3 days for the market to reflect the fair value of the IPO firms. Medians, maxima, and minima of these two return measures are also quite comparable in magnitude. The striking similarity between initial returns and market-adjusted initial returns implies that the listing days of the IPO firms are on average days of flat market conditions. The similarity persists in the two sub-samples. While IPO firms in the computer industry appear to have higher initial (abnormal) returns than the rest, the difference is not significant.

Panel B of Table 1 reports gross and market-adjusted long-run returns of the sampled firms over an average period of 405.12 trading days (i.e., about 18 months) after the offerings. The IPO firms on average enjoy a 29.75% increase in stock prices after the offerings. The sub-sample results further indicate that the average raw long-run return for IPO firms in the computer industry is 60.94%, significantly greater than the 12.57% for IPO firms in the non-computer industry at the 1 percent level.

Unlike Ritter (1991) who reports an average abnormal return of -14.78% over an 18-month period after the offerings in the U.S., we document a positive average long-run abnormal return

[9] Even though we plan to examine the relationship between changes in earnings and buy-and-hold returns, we do not extend the buy-and-hold period for another six months to ensure that the annual report has been made public. In Taiwan, firms are required to disclose their quarterly financial reports during the fiscal year. In particular, for firms adopting the December fiscal year-end, the first-quarter report of the current fiscal year and the annual report of the previous fiscal year must be disclosed by April and the third-quarter report of the current year must become public by October. Investors, particularly sophisticated investors such as institutional investors, can have a good forecast on the annual report based on the heretofore uncovered quarterly reports prior to the year-end. Therefore, the next June-end stock price will reflect only the unexpected part of the annual report. It is quite possible that the effects of the unexpected components will cancel out within the sample of 183 IPOs. The 6-month allowance might hence introduce other unwanted biases since the stock price will incorporate all the information which becomes available during the six-month period.

of 14.37%, significant at the 5 percent level.[10] The relatively low market-adjusted long-run return, compared to the raw return, suggests that the 183 IPO firms on average experience a long-run upward market condition after the offerings. Furthermore, the relatively small median of -5.27%, compared to the mean, and the large spread with a maximum of 793.80% and a minimum of -91.77% suggest that the positive average long-run return could be attributed to a limited number of IPO firms. The results of the two sub-samples further confirm this supposition and indicate that the positive abnormal long-run performance comes primarily from IPO firms in the computer industry.

IPO firms in the computer industry experience an average long-run abnormal return of 55.29%, significant at the 1 percent level. The result may reflect the fact that the computer industry has grown rapidly and has become the mainstay of Taiwan economy since the early 1990s. In contrast, the average long-run abnormal return of IPO firms in the non-computer industry is a significant -8.17%, which is more comparable to the average return of the IPO firms in the U.S. market. We further find that the difference in the long-run abnormal return between the two sub-samples is statistically significant at the 1 percent level. Our results here are in line with Ritter (1991) who documents that long-run stock returns after initial public offerings vary across industries. The difference in the long-run performance between IPO firms in the computer industry and those in other industries justifies further analyses at both the aggregate and the sub-grouping levels.

2.3. Characteristics of IPO firms

Table 2 reports some summary statistics of the sampled IPO firms. At the time of the offerings, the mean and medium market capitalizations of the firms in terms of New Taiwan dollars are NT$8.15 billion and NT$3.89 billion (or US$281.86 million and US$139.48 million) respectively. These figures are surprisingly larger than those reported in the U.S. by

[10] Although the majority of the financial markets report negative long-run abnormal returns, positive long-run abnormal returns have also been found in other Asian markets such as Korea, Singapore, and Malaysia.

Teoh et al. (1998a, 1998b) especially given that Taiwan is an emerging market.[11] However, the firm size varies widely as the biggest firm is about 146 times the size of the smallest firm. A further look at the composition of the IPOs in the industry level reveals that the large but dispersed capitalizations can in part be attributed to the capital intensive computer industry. IPO firms in the computer industry have an average firm size of NT$13.74 billion (equivalent to 455.38 US$m), compared to an average of NT$5.07 billion (equivalent to 186.27 US$m) for other IPO firms. The large capitalization of IPO firms in Taiwan might also be partly attributed to their average of 17 years of age, compared with the U.S. IPO firms aged 13 (Teoh et al., 1998a). Furthermore, the sub-sample results further show that the large age of the Taiwanese IPO firms are primarily skewed by the non-computer firms with an average of 20 years old.

On institutional holdings, institutional investors own 16.56% of total shares on average when an initial public offering is launched. We also find a medium of only 3.3% in the institutional ownership, implying that most of the IPO firms in our sample are largely owned by individuals. The finding differs from Mikkelson et al. (1997) who report that individuals have only a median holding of 10% in a U.S. IPO firm. At the industry level, computer related firms tend to have larger institutional holdings than the others, although the difference is not significant.

To estimate the insiders' holdings, we define insiders as managers or directors who own more than 10% of total shares in a firm. The average share ownership of a Taiwanese IPO firm is 43.56%. The proportion of ownership is comparable to Spiess and Pettway (1997), and Aggarwal et al. (2002) who find that management of an IPO firm in the U.S. holds 41.6% to 43.2% of shares at the time of the offerings. Between the sub-samples, IPO firms in the computer industry are less likely to be held by insiders than those in other industries at the 5 percent level. This discrepancy may relate to the relatively large capitalization of IPO firms in the computer industry reported earlier.

[11] Teoh et al. (1998a) report mean and median capitalizations of 199.68 US$m and 66.23 US$m respectively for an IPO sample of 1649 U.S. firms with an offering price of at least $1 and a market capitalization of $20 million during 1980 to 1992.

Table 2 further shows that the average issue size of the sampled IPOs is 13.31% of the total shares outstanding, which is quite small compared with the 25.9 percent for the U.S. IPOs reported by Aggarwal et al. (2002). The maxima of 25% of total shares in Taiwan, about the average in the U.S., highlight the difference in the issue size. However, across the industries, the percentages of IPO share sold appear to be quite comparable.

To measure the quality of the auditor, we introduce a dummy variable that takes on the value of 1 if the auditor comes from the Big Four accounting firms (i.e., Ernst and Young, KPMG, Price Water House Cooper, and Deloitte and Touche) and 0 otherwise. As shown in Table 2, the average of the dummy variable of 0.78 is significantly greater than 0.5 at the 1 percent level and suggests that the IPO firms tend to hire reputable auditors. We further find that auditors in the computer industry are more reputable than those in other industries. This finding contrasts Beatty (1989) who reports that the Big Eight firms audited 58% of the IPOs during the 1975-1984 period in the U.S.

For the reputation of the lead underwriter of an IPO firm, we also use a dummy variable where it takes on the value of 1 if its underwriting sales during the past three years were in the top half of all the underwriters and 0 otherwise. At both the aggregate and sub-sample levels, the IPO firms tend to work with underwriters of good reputation where the average of the dummy variable is significantly greater than 0.5 at the 1 percent level. While IPO firms in the computer industry have underwriters with relatively high reputation, they are not significant at the t at the 5 percent level.

Before being qualified to file an application to launch its IPO, a firm in Taiwan must go through at least a one-year preparation period under the supervision and assistance of an underwriter. The preparation period is designed to help the firm to fulfil the listing requirements set by the Security and Futures Commissions, parallel to SEC and CFTC in the U.S. There is no restriction on the amount of the time between the end of the preparation period and the initiation of an IPO application. Nevertheless, the firm usually files its application within 6 months after the preparation period because of the costs in delay and periodic charges by the

underwriter. In addition, any delay in the IPO process could cause the firm to continue to bear the implicit costs of changes in its daily operation routine to avoid revealing too much inside information to the underwriter. The reviewing process for the application usually takes about 3 months. The firm must start the offering process within three months after the application is approved. The offering, however, can be postponed for another three months though it has rarely been done. Quite often is the case that the firm announces the offering right after getting the approval.

Finally, to test whether management does conduct market timing on their IPOs, we first calculate the ratio of the 1-month and the 12-month daily market index averages prior to the day a firm files its IPO application. Since the date of the application is not known, we use the day three months prior to the day the IPO is announced instead. We then introduce a dummy variable for the IPO market timing so that it takes on the value of 1 if the ratio is greater than one and 0 otherwise.[12] As indicated in Table 2, the dummy variable takes an average value of 0.58, significantly greater than 0.5 at the 5 percent level. Our preliminary result therefore supports Schultz (2003) and Webb (1999) who document that firms tend to time their IPOs at market peaks. It seems that despite having more than one year lead time over the offering process, the Taiwanese firms are likely to launch their IPOs when market conditions become better.

The sub-sample results give further insights into the IPO firms' market timing ability. The market-timing dummy variable has an average of 0.69 for IPO firms in the computer industry, significantly greater than 0.5 at the 5 percent level. On the contrary, firms in other industries appear to conduct their IPOs in an average market condition. The higher and significant dummy value in the computer industry may imply that firms in the computer industry are more capable of timing their IPOs in good market conditions. On the other hand, it might just reflect the

[12] We also conduct the analysis using the ratio measure rather than the dummy measure and obtain qualitatively similar results. As another robustness test, we calculate the ratio of the two daily market index averages respectively for the 1-month and the 24-month periods prior to the day the firm files its IPO application. The analyses are then repeated and similar results continue to prevail.

relatively short business cycle of the computer industry as opposed to the other industries. Taking together with the prominence of the computer industry in the Taiwanese stock market for the last 15 years, the offerings of computer firms are more likely to coincide with better market conditions.[13]

3. Concealment strategies of IPO firms

3.1 Earnings management

We first focus on the operating performance of the IPO firms by examining their returns on assets (ROA) during the pre- and post-issue periods. Our interest in the issuers' ROA is motivated by Friedlan (1994) and Teoh et al. (1998a, 1998b) who document that IPO firms tend to have higher earnings via abnormal discretionary accruals in the issue-year. ROA therefore can be seen as a proxy for managed earnings. Following Jain and Kini (1994), we compute a firm's ROA of fiscal years after its initial public offering relative to its ROA of the fiscal year prior to the IPO. We define ROA as the net income before taxes of a fiscal year divided by total assets at the end of the previous fiscal year. Year –1, Year 0, and Year 1 denote the fiscal years prior to, surrounding, and after the IPO respectively. For measuring an IPO firm's industry-adjusted change in return on assets, we subtract the corresponding median change in ROA of all other firms in the same industry from the firm's change in ROA.

Panel A of Table 3 reports industry-adjusted changes in ROA for the sampled IPO firms. Consistent with Jain and Kini (1994), we find that the 183 IPO firms experience an average of 1.50% decline in industry-adjusted ROA from Year -1 to Year 0 and an even larger decline of 4.14% in ROA from Year -1 to Year 1, both significant at the 1 percent level. Similar patterns of changes in ROA also emerge in the two sub-samples. However, the sub-sample results reveal

[13] The sub-sample results of IPO market timing are consistent with the finding in Table 1 of the study that the gap between long-run returns and long-run abnormal returns is larger for IPO firms in the non-computer industry than for those in the computer industry. The results together suggests that IPO firms in the non-computer industry are less capable of timing their IPOs with the market, more often launch their IPOs when market conditions are only mediocre, and hence experience better post-offering market conditions than those in the computer industry.

industrial variations in earnings management. Computer-related firms appear to suffer a larger decline in industry-adjusted ROA from Year -1 to Year 1 than those in other industries at the 1 percent level. Our finding that computer-related IPO firms possess better ability to manage earnings perhaps should not come as a surprise. The average annual ROA of 10.02% for computer-related IPO firms over the three-year period (i.e., Years -1, 0, and 1) is far greater than the average of 6.62% for the other firms at the 1 percent significance level. The higher ROA gives computer-related IPO firms more flexibility in adjusting earnings over time.

To establish a link between the degree of earnings management and the long-run abnormal stock return, we rank the IPOs according to their industry-adjusted changes in ROA and then evenly divide them into two portfolios. We then compute average market-adjusted long-run returns of the two portfolios respectively. Panel B of Table 3 presents the effect of earnings management on the long-run performance. For IPO firms that experience larger declines in industry-adjusted ROA, we find an average long-run abnormal return of 2.16%. In contrast, IPO firms that have relatively smaller declines enjoy an average long-run abnormal return of 26.44%. The difference in the average abnormal returns between the two portfolios is significant at the 1 percent level. These results indicate a negative relationship between the degree of earnings management and the long-run market performance of IPO firms. The negative relationship continues to hold within the two sub-samples. Our results therefore support the earnings management effect documented by Teoh et al. (1998a, 1998b), DuCharme et al. (2001) and DuCharme et al. (2004).

3.2 Conceited earnings forecasts

Since June 1st of 1991, firms going public in Taiwan have been required, as part of their applications, to disclose their earnings forecasts over the IPO fiscal year in IPO prospectuses.[14] The purpose of the disclosure according to the Security and Futures Commissions in Taiwan is

[14] When the date of the IPO falls within the three-month period prior to the coming fiscal year-end, the IPO firm is required to additionally disclose earnings forecasts of the next fiscal year. If this occurs, we take the earnings forecasts of the next fiscal year as the earnings forecasts for the IPO.

twofold: First, to lower the information asymmetry in a market where the majority of the investors are individuals and second, to reduce the stock price volatility as a result of the disclosure.

While the required disclosures may serve with good intentions, IPO firms could turn it around and use these earnings forecasts as a mean to increase demand on their shares by raising the forecasts. This could particularly be attractive in Taiwan since there is little penalty for upward biased forecasts. Even when a firm's realized earnings are below 80% of the earnings forecasts, it will only go through a stricter, but not clearly defined, screening process when it applies for a subsequent cash offering. Sequel to the above reasoning, we test whether the newly listed firms manage their financial information to boost market expectations on their earnings prospects. In particular, we examine if the required earnings forecasts are systematically overoptimistic by comparing the forecasted with the realized earnings.

To measure the degree of overoptimism, we calculate the error in earnings forecasts by dividing the difference between the forecasted earnings and the realized earnings by the absolute value of the forecasted earnings:

$$EF_i = \frac{PE_i - AE_i}{|PE_i|} \times 100 \qquad (5)$$

where EF_i is the rate of error in earnings forecasts for firm i; AE_i is firm $i's$ actual earnings before taxes; PE_i is firm $i's$ predicted earnings before taxes.

Panel A of Table 4 shows that at the aggregate level, earnings forecasts for the IPO year are on average 11.40% higher than the actual earnings. The forecast error is significantly different from zero at the 1 percent level. At the sub-sample level, the forecast errors of computer and non-computer firms are 10.37% and 11.97%, both significant at the 5 percent and the 1 percent levels respectively. Although IPO firms in the non-computer industry have on average higher

earnings forecast errors, the difference is not statistically significant. Overall, the results indicate that IPO firms tend to be too optimistic about their future earnings performance.

The forecast error found here is higher than those documented by previous studies on markets such as the UK, Australia, Canada, and Hong Kong, where earnings forecasts in IPO prospectuses are optional.[15] The compulsory disclosure in Taiwan therefore provides no real information advantage to the investors. IPO firms with good prospects may instead not able to use the earnings forecasts as an effective signalling tool given that all firms are required to issue their forecasts (Verrecchia, 1983). Furthermore, an IPO firm with less than rosy future may have further opportunity to disguise itself among those with positive outlook.

We further examine the effect of forecast errors on the long run abnormal returns by dividing the IPO firms into two groups based on the ranks of the firms' forecast errors. As shown in Panel B of Table 4, IPO firms with higher forecast errors have an average long-run abnormal return of -2.66%, which is significantly smaller than the 31.58% average for the IPO firms with lower forecast errors at the 1 percent level. The differences in long-run abnormal returns between the firms of higher and lower forecast errors are also significant at the 5 percent level for the two sub-samples. The significant correlation between the forecast error and the long-run performance may suggest that investors are naively led to believe in the forecasts prior to the offerings and make corrections only when the earnings are realized. The significantly upward biased forecast error, along with the credulity of uninformed investors and feeble law enforcement, further implies that IPO firms tend to be intentionally overoptimistic about their future. Therefore, the results indicate that the required disclosure of earnings forecasts appears to provide issuers with another window of opportunism rather than reducing information asymmetry. The undesirable consequence had given rise to a series of questions about the necessity for the compulsory earnings forecasts disclosure, prompting the Security and Futures

[15] See, for example, Keasey and McGuinness (1991, page 138, table 1) for the United Kingdom, Clarkson et al. (1992, page 605, table 1) for Canada, Brown et al. (2000, page 323, table 4) for Australia, and Cheng and Firth (2000, page 437, table 2) for Hong Kong.

Commissions in Taiwan to abolish the earnings forecasts disclosure requirement by the end of Year 2004.

3.3 Tactical news manipulation

3.3.1 Variations in news reports and market performance

In addition to using earnings management and optimistic earnings forecasts to raise market expectations and hence to successfully launch their IPOs, these firms can also engage in other qualitative types of reporting to influence investors' perception and thereby their demand on the new shares. Unlike in the U.S., there is no restriction on news disclosure for IPO firms prior to and after the offerings in Taiwan. It therefore allows IPO firms to release news that generate favourable views at their discretion. For example, a firm can report its promising operation and production strategies in news conferences or to security analysts directly. The purpose of these exercises could be an attempt to present one unified and positive image about the firm.

In order to test such a hypothesis, we manually collect the news coverage on the 183 IPO firms from the Electronics News Information Bank, the most complete electronic news system in Taiwan, over the period from 1 year prior to the offering date to the end of the next fiscal year after the IPO. The reason for the choice of unequal post-offering sample periods across IPOs is to match the intervals with the sample periods over which long-run stock returns of IPO firms are measured. When news reports with similar content are released on successive days, only the first report is counted. Unlike realized and forecasted earnings disclosed by IPO firms, news reports regarding these firms announced through the media are mostly qualitative in nature. The abstract nature of the news releases may give IPO firms more room for engaging in media hype activities.

To avoid exercising too much subjective judgement, we do not convert the qualitative news reports to quantitative measures. Instead, we use qualitative variables to characterize the news reports in a way that a news release is labelled to be good if it is thought to have a positive impact on the firm, bad if it carries a negative impact, and mixed if the impact is unclear or

trivial. We further classify the news reports into eight categories: 1) Earnings/Financials, 2) Strategy/Policy, 3) R&D/Production, 4) Personnel/Insider, 5) Marketing/Industry, 6) Price/Valuation, 7) Regulation/Law, 8) Others. However, when a news report appears to fall into more than one category, we use the cover story, the reporting weight, or the first-mentioned topic, in that order to categorize the news report. We also classify a news report as forward-looking if it refers to the future, historical if it is related to the past, and indecisive if it belongs neither of the two. We randomly choose three news reports in Year 1999 to illustrate how a news report is characterized:

Date: 21/05/1999 (Good, Strategy/Policy, Forward-looking)

News: Tex-Ray Industrial announced that it will expand its marketing channels in the U.S. by the end of the year, which is intended to boost sales and profits.

Date: 29/06/1999 (Bad; Regulation/Law; Historical)

News: Intel accused VIA Technologies for patent infringement and withdrew Slot 1 patent from VIA Technologies. VIA Technologies refuted such infringement and claimed that it will obtain alternative patent elsewhere.

Date: 08/09/1999 (Bad, Earnings/Financials, Forward-looking)

News: Chicony Electronics adjusted its earnings forecasts for the current year downward to a loss of NT$1.79 per share.

Table 5 presents summary statistics of news reports on the sampled IPO firms. As shown in panel A, a total number of 12590 news releases for the 183 IPO firms are collected over a

period of 893.16 days, from 367.73 calendar days preceding the offering date[16] to 525.43 calendar days following the offering date. An IPO firm has an average of 68.8 news releases, a little larger than the median of 54. Coupled with the wide range of the number of news reports from a maximum of 347 to a minimum of 5, the relatively large mean, as opposed to the median, implies the dominance of several IPO firms with a greater number of news reports. Of the 12590 pieces of news, 5555 news reports reveal something good about the 183 IPO firms, or 30.36 good news reports per IPO firm during the period around their offerings. In contrast, there are merely 1824 bad news reports from 176 IPO firms, or a mean of 9.97 bad news reports per firm. The difference in the number of good news and bad news reports is significant at the 1 percent level. Of the remaining news reports, which represent about 41.4% of the total sample, they are considered either uncertain or trivial. We suspect that firms might just want to draw public attention through widespread media coverage and/or that news statements are often not enunciated in a clear manner.

Panels B and C of Table 5 repeat the analysis of news reports but look at the periods prior to and after the IPOs separately. Just as with the finding by Rao (1993) that there is relatively less news coverage of IPO firms prior to the offerings, we find that the average number of news reports per IPO firm prior to the offerings is far smaller than that after the offerings. Similar patterns occur across all three categories of news reports: good, bad, and mixed The result still holds even after we control for the difference in the number of calendar days between the two periods. The results show that the IPO firms are more closely followed by the media after they are publicly listed. Panels B and C also reveal that only 89 IPO firms have bad news reports prior to the offerings, while there are 170 IPO firms with bad news reports after the offerings. On the other hand, the number of IPO firms with either good or mixed news reports remains almost unchanged between periods prior to and after the offerings. Our finding suggests that before they are publicly listed, IPO firms may have more leeway to get away with bad publicity.

[16] Here the day on which the IPO firm's closing price first falls within the daily price limit rather than the offering day is taken as the cut-off point. Therefore, the period preceding an IPO in fact includes the number of days the market takes to fully reflect the fair value of an IPO firm.

For establishing the linkage between news reports on IPO firms and their subsequent stock market performance, we define a variable that measures the quality of news reports based only on good and bad news reports.

$$\mathrm{Q}_{P,T} = \frac{G_{P,T}}{G_{P,T} + B_{P,T}} \times 100 \tag{6}$$

where $Q_{P,T}$ is the percentage of good news reports for portfolio P during time interval T, $G_{P,T}$ and $B_{P,T}$ are the number of good and bad news reports respectively, P denotes an IPO portfolio including the IPOs of particular interest, and T stands for a time interval and could be the one-year period prior to an IPO, the period from the offering date to the end of the next fiscal year, or the sum of the two periods.[17] Using the normalized measure of good news reports rather than the number of good news reports allows us to compare the quality of news reports between different periods for an IPO firm and across individual IPO firms.

Panel A of Table 6 presents summary statistics of the quality measure for good and bad news reports. Consistent with the results in Table 5, about 91.60% of news reports on the 183 IPO firms belong to good news category prior to the offerings, while good news reports account for only 67.79% of the news reports after the offerings. Similar to the results of the aggregate sample, IPO firms have higher frequency of good news reports for the period prior to the offerings than for the period after the offerings in the sub-samples. Panel A also shows that an average IPO firm in the computer industry tends to have more news reports than its counterpart in other industries. As the computer industry has become the focal point of the Taiwanese economy since the early 1990s, it is not surprising that these glamour firms are more closely followed and reported. The sub-sample results also show that IPO firms in the computer

[17] The proposed measure excludes news reports with uncertain or trivial impact so that the sum of proportions of good and bad news reports is equal to one. This enables us to conduct the study using the percentage of good news reports as the only news quality measure.

industry have higher percentage of good news reports than those in other industries. Further examinations show that the difference in percentage of good news reports between the two sub-samples is significant for all the three periods: prior to, after, and around the offerings.[18]

As a sequel to the above analysis, we examine whether there are significant changes in percentage of good news reports between periods prior to and after the offerings. We first calculate the change in percentage of good news reports for an individual IPO firm by taking the difference in the firm's percentage of good news reports between the two sub-periods. Reported in Panel B of Table 6, the percentage of good news reports in an average IPO firm decline 28.34% from the pre-offering to the post-offering periods and is significant at the 1 percent level. .

The sub-sample results again mirror closely to those of the aggregate sample. However, IPO firms in the computer industry on average experience a 24.05% decrease in percentage of good news reports compared to a larger decline of 30.70% in other industries. While the findings tend to suggest that IPO firms in the non-computer industry are more likely to engage in news management, the difference in the percentage changes in good news between the two sub-samples is not statistically significant. Panel B of Table 6 also shows that percentage changes in good news reports on IPO firms in the computer industry exhibit a less heterogeneous characteristic in that they spread over a narrower range with a smaller standard deviation. This observation could be attributed to the fact that the non-computer sample consists of IPO firms from various industries.

Using similar methodology as earlier, we evenly divide the IPO firms into two groups according to the ranks of their individual changes in the percentage of good news reports between periods prior to and after the offerings. Panel C of Table 6 shows that the portfolio of IPO firms with a larger proportional decrease in good news reports has an average long-run

[18] We first calculate the percentage of good news reports of each individual IPO firm for a given period and then conduct the tests by comparing the average percentage of good news reports between the two sub-samples. The t-statistics are 2.31, 3.19, and 3.22 for periods prior to, after, and around the offerings respectively.

abnormal return of -13.16%. In sharp contrast, the portfolio with a smaller proportional decline earns an average return of 41.60%. Both measures are significant the 1 percent level. Equally important, the difference between these two long-run abnormal returns is also significant at the 1 percent level. The negative relationship between declines in the percentage of good news reports and the IPO firms' long-run performance therefore supports the hypothesis that IPO firms are likely to release more good news prior to the offerings to boost the market price of their shares. However, those that release more good news reports than an average firm could not hide their inflated views in the long run. The sub-sample results closely resemble the aggregate results and suggest that the relationship is immuned from industrial variations.

3.3.2 A breakdown of news reports on IPO firms

Following our findings on news management of IPO firms, we now identify what types of news reports tend to suffer larger proportional decreases in percentage of good news reports over the IPO periods. In other words, what kinds of news tend to be of more cost effective in improving investors' perception on an IPO firm? Panel A of Table 7 presents summary statistics of good and bad news reports across various categories and time periods for the sampled firms. News related to the Earnings/Financials category shows up most frequently, which totals 1902 pieces of news and accounts for about 25.8% of all the reports over the period around the offerings. The Price/Valuation category comes next with 1552 news reports, followed by the Strategy/Policy category with 1141 news reports. The R&D/Production category contains 1006 news reports. Not surprisingly, news under the categories of Personnel/Insider and Regulation/Law has the least coverage.

In terms of the percentage of good news reports around the offerings, with the exception of the Regulation/Law category, good news significantly exceeds 50% of news reports in each categories at the 1 percent level. Similar findings also apply to each of the two sub-periods. At the category level, about 93.78% of news reports in the Strategy/Policy category are good news, followed closely by the 93.24% in the R&D/Production category. For the Earnings/Financials

and Price/Valuation categories, the two with the most frequent news reports, 72.08% and 73.39% of their news reports are found to be good news respectively. An interesting observation is the Regulation/Law category where only 4.88% of the news reports are considered good news. This is perhaps expected given the "nature" of a news event in the category. When a firm is operating according to rules and regulations, it is not qualified to be news. Therefore, the news reports found in this category are mostly related to violations of regulations and laws with a few exceptions related to winning lawsuits.

An examination on changes in number of news reports across all news categories over the IPO periods appears to shed more light on the news management practices. All but the Strategy/Policy category experiences an increase in number of news reports after the offerings. Specifically, the Strategy/Policy category contains 805 news items prior to the offerings but only 336 news items after the offerings. Furthermore, with the minor exception of the Regulation/Law category, which has a very few good news reports to start with, the Strategy/Policy category appears to be the only category suffering a decrease in the number of good news reports from 779 items to 291 items between pre-offering and post-offering periods. On the other hand, while all categories exhibit an increase in the number of bad news reports after the offerings, the Strategy/Policy category experiences the smallest increase in the number of bad news reports (i.e., from 26 to 45).

We suggest that the unique characteristics of news reports in the Strategy/Policy category may offer an explanation on the eccentric behaviour of this type of news. Compared with other types of news, news in the Strategy/Policy category is relatively easy to make because it usually only provides a blueprint or a vision of a firm's future. This is particularly true and perhaps needed when the firm is not well known and is still not fully under the watchful eye of the market. Therefore, the ease of making news of the type and the informational opaqueness of an IPO firm prior to the offering provide more opportunities for managers to engage this line of news coverage bias. Although we do not have more direct evidence to base our assertion here, the exclusive and dramatic decline in number of good news reports after the offerings lends

support to the supposition that voluntarily releasing news in this category prior to the offerings is the IPO firms' favourite approach to enhance the public perception about the firms' future prospects.

With regard to the changes in good news reports between the two sub-periods, there seems to be fewer in each category after the offerings. Panel B of Table 7 provides such evidence. For each individual IPO firm, percentages of good news reports in each category for the pre- and post-offering periods are respectively calculated, and then their difference is obtained by subtracting the percentage number of the pre-offering period from that of the post-offering period. Consistent with the observation for the aggregate sample in Panel B of Table 6, the result indicates that all the categories except the Price/Valuation experience a significant decrease in the percentage of good news reports after the offerings.

Finally, we test whether the aforementioned significant relationship between the change in percentage of good news reports and the long-run performance of IPO firms varies across news categories. Within each news category, we again sort the IPO firms into two groups based on ranks of the individual changes in good news reports. Panel C of Table 7 presents the results. Overall, we find that a larger decrease in good news reports experience a sharper decline in subsequent stock price in all categories except Personnel/Insider and Regulation/Law. Although the results are consistent with what we observed in Panel C of Table 6, they should be interpreted cautiously. First, not every IPO firm has news reports in each category, limiting the number of IPO firms with changes in good news reports in that category. Second, changes in good news reports for individual IPO firms tend to cluster in magnitude, particularly in the categories of Strategy/Policy, R&D/Production, and Regulation/Law. The tendency for either good news or bad news to appear in these categories is likely to make the percentage of good news reports unchanged between the pre- and post-offering periods. Consequently, we observe a lot of IPO firms with trivial changes in percentage of good news reports in these categories, resulting in unequal numbers of IPO observations in the low and the high portfolios. This limits the implications of the results.

3.5 Forward looking vs. historical news reports

Following the above analysis, we further sort good and bad news reports into forward-looking and historical statements to examine the characteristics of these reports. Table 8 reports the summary statistics. About 37.41 percent of the good news reports around the offerings are stated in the future tense, while only 17.65 percent of the bad news reports are forward-looking statements. This implies that IPO firms are more likely to disclose information when it is positively related to the firms' prospects.

When we look into each sub-period, before and after the IPOs, the disclosure behaviours however differ substantially. The ratio of good and bad news reports that are forward-looking is about 6.3 to 1 prior to the offerings, but is only 1.8 to 1 subsequent to the offerings. Compared with good news reports before the offerings, subsequent good news reports have a lower proportion of being forward-looking especially in the non-computer industries. Adding to that, the forward-looking bad news reports have tripled in the post-offering periods. The combination of the reduction in good news reports and the dramatic increase in bad news reports narrows their differences after the offerings.

Our analysis seems to point out that IPO firms incline to disclose positive forward-looking statements regarding their promising future and are more likely to do so prior to the offerings. Our finding thus complements the result of Lang and Lundholm (2000) that U.S. firms conducting SEOs increase their disclosure activity through making all but the forward-looking statements. More importantly, the findings support the strict enforcement of gun-jumping prohibition securities law such as section 5(c) of the 1933 Securities Act.

4. The regression analysis

In this section, we conduct more rigorous regression analyses on the robustness of the earlier results. In addition to examining the simple linear relationship between the long-run abnormal performance of IPO firms and the three concealment strategies, we run multivariate

regression tests to address the problem of potential interdependencies between the major variables. The error in earnings forecasts is measured by the difference between forecasted earnings and realized earnings divided by the absolute value of forecasted earnings for the IPO year (i.e., Year 0). The earnings management variable is measured by the change in industry-adjusted ROA from Year -1 to Year 1. The news management variable is proxied by the change in percentage of good news reports between pre- and post-IPO periods. Based on the result in Table 1 that IPO firms in the computer industry perform significantly better than the rest, we add into the regression models an industry dummy, which takes the value of 1 if an IPO firm is in the non-computer industry and 0 otherwise. We further add several control variables into the regression based on previous empirical findings on IPO pricing. These variables were found to be empirically related to the offering price and hence may have effects on the long-run performance of IPO firms. The definitions of these control variables are described in Section 2.3.

Table 9 reports the regression results. In all of the five regressions, the coefficient estimate of the industry dummy is negative and significant at the 1 percent level. Compared with the results in Table 1, it is consistent not only in sign but also in the difference in average long-run abnormal returns between the computer industry and other industries. When examined individually, each of the three concealment strategies is significantly related to the long-run performance of IPO firms. These regression results reinforce our earlier finding that higher degree of concealment is associated with worse aftermarket performance.

However, when these three variables are regressed together, only the variable for news management remains significant at the 1 percent level. The same result prevails when control variables are added into the regression. The findings are perhaps not surprising given that news related to realized and forecasted earnings is just part of an IPO firm's disclosure activity. The

regression results confirm that the news management practice plays the most important role in explaining the behaviour of subsequent stock prices for IPO firms.[19]

5. Summary and conclusion

This paper investigates three conceivable concealment strategies that IPO firms might deploy to maximize their returns from the sale of their shares. The analyses are based on a sample of 183 IPO firms in the Taiwanese stock market where the unique security regulatory environment allows us to investigate the opportunistic behaviour of IPO firms. A Taiwanese company is required to disclose its own earnings forecasts in IPO prospectuses, as part of its application when it seeks to become a publicly listed firm. Furthermore, there is no restriction on disclosure activities of an IPO firm. The mandatory disclosure of IPO firms' earnings forecasts and complete freedom in releasing news around the offerings can further prompt the initial shareholders to develop window dressing strategies to boost the market price of their shares. Therefore, in addition to an examination of the well known earnings management hypothesis, we investigates whether there are linkages between aftermarket performance of IPO firms and the accuracy of their compulsory earnings forecasts and the characteristic of news releases on the IPO firms. The main thesis is that if the initial price is artificially and temporarily inflated, we would expect to observe lower stock returns following the IPOs.

Consistent with the well-founded earnings management practice, we find that IPO firms experience a significant decline in industry-adjusted return on assets between the fiscal years proceeding and subsequent to the IPOs. The changes in industry-adjusted ROA are also significantly related to stock market performance the way in which IPO firms that experience larger drops in industry-adjusted ROA tend to have worse aftermarket performance.

Our results also indicate that IPO firms are likely to inflate their earnings forecasts. IPO firms with larger errors in earnings forecasts perform significantly worse than those with

[19] Instead of adding the industry intercept dummy into the regression models, we continue the robustness tests by running all the regressions for the two sub-samples respectively. The sub-sample results are similar to those in the full sample.

smaller errors. The compulsory disclosure of firms' earnings forecasts is originally aimed at reducing informational opaqueness of IPO firms. However, the antithetical effect suggests that the requirement provides another window of opportunism for IPO firms. Coupled with feeble law enforcement, the enforcement of the mandatory disclosure may in fact introduce another information barrier to the naïve investors.

The most interesting results of the study come from the examination of the news management hypothesis. We find that there are significant declines in the percentage of good news reports following the offerings. IPO firms incline to disclose good news and/or hide bad news prior to the offerings. These changes also bear a significant relationship with aftermarket performance. In particular, IPO firms experiencing larger decreases in good news reports suffer poorer performance in the aftermarket stock prices. Our subsequent findings also confirm that effects of earnings management and conceited earnings forecasts on aftermarket performance are mostly suppressed by the prevalence of the news management practice. This suggests that drops in quality of news reports are the most predominant factor in the declines of subsequent stock prices. The results of the three concealment strategies on subsequent stock prices remain robust at the industry level.

We also sort news reports into various categories according to the content of these reports. We find that unlike other types of news, good news related to Strategy/Policy has the largest drop in reporting frequency from pre-offering to post-offering periods. This implies that issuers are particularly keen to release positive news related to strategy and policy before the offerings to improve the public perception about the firms' prospects. The preference for drawing good publicity by making this type of news is especially appealing given that the news is relatively easy to make since it only provides a vision of a firm's future.

Finally, we find that IPO firms tend to release forward-looking news reports when they are potentially good about the future and disclose bad events mostly when the events have already occurred. They are particularly more likely and able to do so prior to the offerings. In addition to being motivated by the pursuit of raising more proceeds from the offerings, these firms are

less monitored and are more informationally opaque prior to the offerings. The results justify the strict enforcement of gun-jumping prohibition regulation, typified by section 5(c) of the 1933 Security Act in the U.S. We suggest that media hype prohibition laws are particularly important for the pre-listed firms.

Reference

Aggarwal, Rajesh K., Laurie Krigman, and Kent L. Womack, 2002, Strategic IPO underpricing, information momentum, and lockup expiration selling, *Journal of Financial Economics* 66, 105-137.

Aggarwal, Reena, Ricardo Leal, and Leonardo Hernandez, 1993, The aftermarket performance of initial public offerings in Latin America, *Financial Management* 22, 42-53.

Aharony, J., C. Lin, and Loeb, 1993, Initial public offerings, accounting choices, and earnings management, *Contemporary Accounting Research* 10, 61-82.

Allen, Franklin, and Gerald R. Faulhaber, 1989, Signaling by underpricing in the IPO market, *Journal of Financial Economics* 23, 303-323.

Ang, James S. and James C. Brau, 2003, Concealing and confounding adverse signals: Insider wealth-maximizing behavior in the IPO process, *Journal of Financial Economics* 67, 149-172.

Ball, Ray, 1978, Anomolies in relationship between securities' yields and yield surrogates, *Journal of Financial Economics*, June-September, 103-126.

Ball, Ray J., and Phillips Brown, 1968, An empirical evaluation of accounting income numbers, *Journal of Accounting Research* 6, 159-178.

Barber, brad M., and John D. Lyon, 1997, detecting long-run abnormal stock returns: The empirical power and specification of test statistics, *Journal of Financial economics* 43, 341-372.

Beatty, Randolph P., 1989, Auditor reputation and the pricing of initial public offerings, *The Accounting Review* 63, 693-709.

Brown P., A. Clarke, J. How, and K Lim, 2000, The accuracy of management dividend forecasts in Australia, *Pacific-Basin Finance Journal*, 8 309-331.

Cai, Jun, and K.C. John Wei, 1997, The investment and operating performance of Japanese initial public offerings, *Pacific-Basin Finance Journal* 5, 389-417.

Cheng, T., and M. Firth, 2000, An empirical analysis of the bias and rationality of profit forecasts published in new issue prospectuses, *Journal of Business, Finance, and Accounting* 27, 423-446.

Clarkson, Peter M., 2000, Auditor quality and the accuracy of management earnings forecasts, *Contemporary Accounting Research* 17, 595-622.

Clarkson, P., A. Dontoh, G. Richardson, and S. Sefcik, 1992, The voluntary inclusion of earnings forecasts in IPO prospectuses, *Contemporary Accounting Research* 8, 601-626.

Corhay, Albert, Stanley Teo, and Alireza Tourani Rad, 2002, The long-run performance of Malaysian initial public offerings (IPOs): Value and growth effects, *Managerial Finance* 28, 52-65.

Daniel, Kent, David Hirshleifer and Avanidhar Subrahmanyam, 1998, Investor psychology and security market under- and overreactions, *Journal of Finance* 53, 1839- 1885.

DuCharme, Larry L., Paul H. Malatesta, and Stephan E. Sefcik, 2001, Earnings management: IPO valuation and subsequent performance, *Journal of Accounting, Auditing, and Finance* 16, 369-396.

DuCharme, Larry L., Paul H. Malatesta, and Stephan E. Sefcik, 2004, Earnings management, stock issues, and shareholder lawsuits, *Journal of Financial Economics* 71, 27-49.

Firth, Michael, 1997, An analysis of the stock performance of new issues in New Zealand, *Pacific-Basin Finance Journal* 5, 63-85.

Foster, George, 1973, Stock market reaction to estimates of earnings per share by company officials, *Journal of accounting Research* 11, 25-37.

Friedlan, John M., 1994, Accounting choices of issuers of initial public offering, *Contemporary Accounting Research* 11, 1-31.

Hutton, Amy P., Gregory S. Miller, and Douglas J., Skinner, 2003, The role of supplementary statements with management earnings forecasts, *Journal of Accounting Research*, 41, 867-890.

Jain, Bharat, and Omesh Kini, 1994, The post-issue operating performance of IPO firms, *Journal of Finance*, 49, 1699-1726.

Jog, Vijay, and Bruce J. McConomy, 2003, Voluntary disclosure of management earnings forecasts in IPO prospectuses, *Journal of Business, Finance, and Accounting* 30, 125-167.

Keasey, Kevin, and Paul McGuinness, 1991, Prospectus earnings forecasts and the pricing of new issues on the unlisted security market, *Accounting and Business Research*, Vol. 21, No. 82, 133-145.

Keloharju, Matti, 1993, The winner's curse, legal liability, and the long-run performance of initial public offerings in Finland, *Journal of Financial Economics* 34, 251-277.

Kim, Jeong-Bon, Itzhak Krinsky, and Jason Lee, 1995, The aftermarket performance of initial public offerings in Korea, *Pacific-Basin Finance Journal* 3, 429-448.

Kothari, S.P., and Jerod Warner, 1997, Measuring long-horizon security price performance, *Journal of Financial Economics* 43, 301-339.

Lang, Mark H., and Russell J. Lundholm, 2000, Voluntary disclosure and equity offerings: Reducing information asymmetry or hyping the stock? *Contemporary Accounting Research* 17, 623-662.

Lee, Phillip J., Stephen L. Taylor, and Terry S. Walter, 1996a, Australian IPO pricing in the short and long run, *Journal of Banking and Finance* 4, 153-180.

Lee, Phillip J., Stephen L. Taylor, and Terry S. Walter, 1996b, Expected and realized returns for Singaporean IPOs: Initial and long-run analysis, *Pacific-Basin Finance Journal* 4, 153-180.

Leland, Hayne E., and David H. Pyle, 1977, Information asymmetries, financial structure, and financial intermediation, *Journal of Finance* 32, 371-387.

Levis, Mario, 1993, The long-run performance of initial public offerings: The UK experience 1980-1988, *Financial Management* 22, 28-41.

Loughran, Tim, Jay R. Ritter, and Kristian Rydqvist, 1994, Initial public offerings: International insights, *Pacific-Basin Finance Journal* 2, 165-199.

Lyn, Esmeralda O., and Edward J. Zychowicz, 2003, The performance of new equity offerings in Hungary and Poland, *Global Finance Journal* 14, 181-195.

Lyon, John D., Brad M. Barber, and Chih-Ling Tsai, 1999, Improved methods for tests of long-run abnormal stock returns, *Journal of Finance* 54, 165-201.

Mikkelson, Wayne H., M. Megan Partch, and Kshitij Shah, 1997, Ownership and operating performance of companies that go public, *Journal of Financial Economics* 44, 281-307.

Nichol, Donald R., and Jeffrey J. Tsay, 1979, Security price reactions to long-range executive earnings forecasts, *Journal of Accounting Research*, 17, 140-155.

Patell, James M., 1976, Corporate forescasts of earnings per share and stock price behaviour: Empirical tests, *Journal of Accounting Research* 14, 246-276.

Rao, Gita, R., 1993, The relation between stock returns and earnings: A study of newly-public firms, working paper, *Kidder Peabody and Co*., New York.

Ritter, Jay R., 1991, The long-run performance of initial public offerings, *Journal of Finance* 46, 3-27.

Ritter, Jay R., and Ivo Welch 2002, A review of IPO activity, pricing and allocation, *Yale ICF working paper*, No. 02-01.

Rendleman, Jr. R.L., C.P. Jones, and H.A. Latane, 1982, Empirical anomalies based on unexpected earnings and the importance of risk adjustments, *Journal of Financial Economics* 10, 269-287.

Schultz, Paul, 2003, Pseudo market timing and the long-run underperformance of IPOs, *Journal of Finance* 58, 483- 517.

Skinner, Douglas J., 1994, Why firms voluntarily disclose bad news, *Journal of Accounting Research* 32, 38-60.

Spiess, D. Katherine, and Richard H. Pettway, 1997, The IPO and first seasoned equity sale: Issue proceeds, owner/managers' wealth, and the underpricing signal, *Journal of Banking and Finance* 21, 967-988.

Teoh, Siew. H., Ivo Welch, and T. J. Wong, 1998a, Earnings management and the long-run market performance of initial public offerings, *Journal of Finance* 53, 1935-1975.

Teoh, Siew. H., T. J. Wong, and Gita R. Rao, 1998b, Are accruals during initial public offerings opportunistic? *Review of Accounting Studies* 3, 175-208.

Verrecchia, R. E., 1983, Discretionary disclosure, *Journal of Accounting and Economics* 5, 179-194.

Waymire, Gregory, 1984, Additional evidence on the information content of management earnings forecasts, *Journal of Accounting Research*, 22, 703-718.

Watts, Ross, 1978, Systematic 'abnormal' returns after quarterly earnings announcements, *Journal of Financial Economics*, June-September, 127-150.

Webb, Gwendolyn P., 1999, Evidence of managerial timing: The case of exchange listing, *Journal of Financial Research* 22, 247-264.

Welch, Ivo, 1989, Seasoned offering, imitation costs, and the underpricing of initial public offerings, *Journal of Finance* 44, 421-449.

Table 1. Initial and long-run stock returns of the sampled IPO firms

This table reports the stock market performance of the 183 IPO firms. The full sample is further divided into two sub-samples respectively for IPOs in the computer and non-computer industries. *IR* is the initial return measured by the ratio of the difference between the first post-offering non-limit-hit closing price and the offering price to the offering price where the first post-offering non-limit-hit closing price is the closing price of the day on which the closing price first falls within the daily price limit. *IAR* is the market-adjusted initial return and calculated by the difference between the initial return and the corresponding market return. *LR* is the long-run buy-and-hold return over the period from the day following the day on which the IPO firm's closing price is first within the daily price limit to the year-end of the next fiscal year. *LAR* is the long-run abnormal return and calculated by subtracting the corresponding market return from the long-run buy-and-hold return. N(IPO) is the number of IPOs in each portfolio. * and ** denote significance at the 5 and 1 percent levels respectively.

	N (days)	N (IPO)	Mean	Std. Dev.	Max.	Med.	Min.	t-stat.
Panel A: Initial IPO returns								
Initial Returns (*IR*)								
Full sample	2.30	183	14.92%	19.68%	93.03%	6.89%	-19.53%	10.26**
Computer industry	2.55	65	16.33%	23.56%	93.03%	6.89%	-19.53%	5.59**
Non-computer industries	2.15	118	14.14%	17.23%	91.07%	6.89%	-6.97%	8.91**
Initial Abnormal Returns *(IAR*)								
Full sample	2.30	183	14.81%	19.57%	94.25%	7.56%	-15.61%	10.24**
Computer industry	2.55	65	16.57%	23.51%	94.25%	7.56%	-15.61%	5.68**
Non-computer industries	2.15	118	13.84%	17.04%	92.23%	7.57%	-9.02%	8.82**
Panel B: Long-run IPO returns								
Long-run Returns (*LR)*								
Full sample	405.12	183	29.75%	99.28%	816.64%	4.03%	-89.32%	4.05**
Computer industry	391.35	65	60.94%	145.48%	816.64%	19.93%	-74.23%	3.38**
Non-computer industries	412.70	118	12.57%	54.03%	218.32%	2.23%	-89.32%	2.53**
Long-run Abnormal Returns (*LAR)*								
Full sample	405.12	183	14.37%	93.69%	793.80%	-5.27%	-91.77%	2.07*
Computer industry	391.35	65	55.29%	136.12%	793.80%	13.88%	-83.60%	3.27**
Non-computer industries	412.70	118	-8.17%	45.57%	154.24%	13.51%	-91.77%	-1.95

Table 2. Summary statistics of the sampled IPO firms

This table presents summary statistics for the characteristics of the 183 IPOs in the sample. The full sample is further divided into two sub-samples respectively for IPOs in the computer and non-computer industries. Firm size is the market value of the IPO firm at the offering and is denominated in billions of New Taiwan dollars. Firm age is the number of years that the IPO firm has been in existence before going public. The institutional holding is the proportion of shares held by institutional investors at the offering. The insiders' holding is the proportional ownership of shares held by the managers of the IPO firm at the offering. IPO percentage is the fraction of total shares for an IPO. Quality of the auditor is a dummy variable which takes on the value of 1 if the auditor is from the big four accounting firms and 0 otherwise. Reputation of the underwriter is a dummy variable that takes on the value of 1 if the underwriter's sales in the past three years were in the top half of all the underwriters' and 0 otherwise. Market timing is a dummy variable that takes on the value of 1 if the ratio of averages of daily market index for the 1-month and 12-month periods preceding the IPO application is greater than one and 0 otherwise. N(IPO) is the number of IPOs in each portfolio.

Firm Variable	N (IPO)	Mean	Std. Dev.	Max.	Median	Min.
Firm size (billion, NTD)						
Full sample	183	8.15	18.00	171.63	3.89	1.18
Computer industry	65	13.74	28.56	171.63	5.45	1.50
Non-computer industry	118	5.07	5.54	39.66	3.17	1.18
Firm age (Year)						
Full sample	183	17.13	8.77	49.52	14.87	3.10
Computer industry	65	11.69	5.35	28.54	10.75	3.10
Non-computer industry	118	20.13	8.86	49.52	19.99	3.74
Institutional holdings (%)						
Full sample	183	16.56	24.70	96.29	3.30	0.00
Computer industry	65	19.15	23.47	78.90	11.39	0.00
Non-computer industry	118	15.13	25.43	96.29	0.90	0.00
Insiders' holdings (%)						
Full sample	183	43.56	17.94	88.39	41.39	10.37
Computer industry	65	40.13	15.54	72.81	37.02	10.37
Non-computer industry	118	45.46	18.93	88.39	41.91	12.17
IPO percentage (%)						
Full sample	183	13.31	4.74	25.04	10.08	2.76
Computer industry	65	13.75	5.23	25.04	10.08	2.76
Non-computer industry	118	13.07	4.46	20.18	10.07	4.35
Quality of the Auditor (Dummy)						
Full sample	183	0.78	0.41	1.00	1.00	0.00
Computer industry	65	0.88	0.33	1.00	1.00	0.00
Non-computer industry	118	0.73	0.45	1.00	1.00	0.00
Reputation of the underwriter (Dummy)						
Full sample	183	0.81	0.39	1.00	1.00	0.00
Computer industry	65	0.85	0.36	1.00	1.00	0.00
Non-computer industry	118	0.79	0.41	1.00	1.00	0.00
Market timing of IPOs (Dummy)						
Full sample	183	0.58	0.50	1.00	1.00	0.00
Computer industry	65	0.69	0.47	1.00	1.00	0.00
Non-computer industry	118	0.52	0.50	1.00	1.00	0.00

Table 3. Earnings management and aftermarket performance

This table reports industry-adjusted changes in return on assets (ROA) and their relation with the aftermarket performance for the 183 sampled IPOs. The full sample is further divided into two sub-samples respectively for IPOs in the computer and non-computer industries. A firm's industry-adjusted change in ROA is obtained by subtracting the contemporaneous median change in ROA of all other firms in the same industry from the firm's change in ROA. Years -1, 0, and 1 denote the fiscal years preceding, surrounding, and following the IPO fiscal year respectively. Changes in ROA are all measured relative Year -1. Panel A reports the summary statistics of industry-adjusted changes in ROA for Years 1 and 0 relative to Year -1. Panel B shows the relationship between the industry-adjusted change in ROA and the long-run abnormal return, which is calculated by subtracting the corresponding market return from the long-run buy-and-hold IPO return over the period from the day following the day on which the IPO firm's closing price is first within the daily price limit to the year-end of the next fiscal year. The IPO sample is also evenly divided into two portfolios according to ranks of these firms' industry-adjusted changes in ROA form Year -1 to Year 1. Low and High accordingly represent the portfolios of IPO firms with smaller and larger increases in industry-adjusted ROA respectively. N(IPO) is the number of IPOs in each portfolio. * and ** denote significance at the 5 and 1 percent levels respectively.

Panel A: Summary statistics of industry-adjusted changes in ROA

	N(IPO)	Mean	Std. Dev.	Max.	Med.	Min.	t-stat.
From Year -1 to Year 0:							
Full sample	183	-1.50%	4.44%	19.29%	-0.99%	-17.19%	-4.57**
Computer industry	65	-1.95%	5.32%	19.29%	-1.87%	-12.54%	-2.96**
Non-computer industry	118	-1.25%	3.87%	8.80%	-0.53%	-17.19%	-3.52**
From Year -1 to Year 1:							
Full sample	183	-4.14%	6.90%	16.36%	-2.44%	-37.95%	-8.12**
Computer industry	65	-5.73%	7.44%	11.22%	-4.84%	-27.08%	-6.21**
Non-computer industry	118	-3.27%	6.45%	16.36%	-2.04%	-37.95%	-5.50**

Panel B: Effects of earnings management on long-run abnormal returns (LAR)

Industry-adjusted changes in ROA from Year -1 to Year 1	N (IPO)	Mean (LAR)	t-stat.
Full Sample			
Low	91	2.16%	0.21
High	92	26.44%	2.88**
Computer Industry			
Low	32	22.96%	0.86
High	33	86.63%	4.34**
Non-computer industry			
Low	59	-17.39%	-3.12**
High	59	1.05%	0.17

Table 4. Earnings forecasts errors and aftermarket performance

This table reports percentage errors in compulsory earnings forecasts and their relation with the aftermarket performance for the 183 sampled IPOs. The full sample is further divided into two sub-samples respectively for IPOs in the computer and non-computer industries. Panel A reports summary statistics of percentage errors in earnings forecasts. The error in earnings forecasts is measured by the difference between forecasted earnings and realized earnings divided by the absolute value of forecasted earnings. Panel B shows the relationship between the percentage error in earnings forecasts and the long-run abnormal return, which is calculated by subtracting the corresponding market return from the long-run buy-and-hold IPO return over the period from the day following the day on which the IPO firm's closing price is first within the daily price limit to the year-end of the next fiscal year. The IPO sample is also evenly divided into two portfolios according to ranks of these firms' percentage errors in earnings forecasts. Low and High accordingly represent the portfolios of IPO firms with smaller and larger upward biased earnings forecasts respectively. N(IPO) is the number of IPOs in each portfolio. * and ** denote significance at the 5 and 1 percent levels respectively.

Panel A: Summary statistics of earnings forecast percentage errors

	N(IPO)	Mean	Std. Dev.	Max.	Med.	Min.	t-stat.
Full Sample	183	11.40%	38.98%	251.90%	8.12%	-95.07%	3.96**
Computer Industry	65	10.37%	40.02%	153.32%	8.30%	-95.07%	2.09*
Non-computer Industry	118	11.97%	38.56%	251.09%	8.08%	-90.67%	3.37**

Panel B: Effects of earnings forecast errors on long-run abnormal returns (LAR)

	N (IPO)	Mean (LAR)	t-stat.
Full sample			
Low	91	31.58%	2.57*
High	92	-2.66%	-0.44
Computer Industry			
Low	32	88.80%	2.83**
High	33	22.79%	1.98*
Non-computer Industry			
Low	59	0.55%	0.10
High	59	-16.89%	-2.73**

Table 5. Summary statistics of news reports on the sampled IPO firms

This table presents the characteristics of 12590 news reports on the 183 sampled IPO firms. News reports are divided into three types: good news, bad news, and mixed news. News that is considered to have a positive (negative) impact on a firm is classified as good (bad) news. News that is considered to have an unclear or a trivial impact is classified as mixed news. The period prior to the offerings refers to the one-year period preceding and including the day on which the IPO firm's closing price is first within the daily price limit. The period following the offerings spans over the time interval between the first non-limit-hit day and the year-end of the next fiscal year. The period around the offerings is the combination of the pre- and post-offering periods. N(IPO) is the number of IPOs in each portfolio.

	N (IPO)		News Report Frequency				
Classification	With Reports	Without Reports	Total	Mean	Max.	Med.	Min.
Panel A: News reports around the IPOs							
All	183	0	12590	68.80	347	54	5
Good news	183	0	5555	30.36	211	20	1
Bad News	176	7	1824	9.97	67	8	0
Mixed News	183	0	5211	28.48	126	23	1
Panel B: News reports prior to the IPOs							
All	183	0	3441	18.80	108	13	1
Good news	181	2	2127	11.62	89	8	0
Bad News	89	94	195	1.07	14	1	0
Mixed News	175	8	1119	6.11	37	5	0
Panel C: News reports following the IPOs							
All	183	0	9149	49.99	270	39	2
Good news	180	3	3428	20.90	140	13	0
Bad News	170	13	1629	8.90	65	7	0
Mixed News	181	2	4092	22.26	107	18	0

Table 6. Changes in percentage of good news and aftermarket performance

This table presents variations in proportion of good news and their linkage with the aftermarket performance for the 183 sampled IPOs. The full sample is further divided into two sub-samples respectively for IPOs in the computer and non-computer industries. Panel A shows the numbers of good and bad news reports for various time periods. News that is considered to have a positive (negative) impact on a firm is classified as good (bad) news. The period prior to the offerings refers to the one-year period preceding and including the day on which the IPO firm's closing price is first within the daily price limit. The period following the offerings spans over the time interval from the day following the first non-limit-hit day to the year-end of the next fiscal year. The period around the offerings is the combination of the pre- and post-offering periods. Percentage of good news reports is the ratio of the number of good news reports to the aggregate of good and bad news reports. Panel B reports changes in percentage of good news reports between the pre- and post-offering periods. Panel C reports the relationship between the change in percentage of good news reports and the long-run abnormal return, which is calculated by subtracting the corresponding market return from the long-run buy-and-hold IPO return over the post-offering period. The IPO sample is also evenly divided into two portfolios according to ranks of these firms' changes in percentage of good news reports. Low and High accordingly represent the portfolios of IPO firms respectively with larger and smaller decreases in percentage of good news reports between the pre- and post-offering periods. N(IPO) is the number of IPOs in each portfolio. * and ** denote significance at the 5 and 1 percent levels respectively.

Panel A: Good and bad news reports

	Good News		Bad News		Proportion of Good News	
	N (IPO)	Frequency	N (IPO)	Frequency	Percentage	t-stat.
Full Sample						
Around Offerings	183	5555	176	1824	75.28%	23.01**
Prior to Offerings	181	2127	89	195	91.60%	58.05**
After Offerings	180	3428	170	1629	67.79%	12.36**
Computer Industry						
Around Offerings	65	2959	63	786	79.01%	22.06**
Prior to Offerings	65	1063	31	74	93.49%	48.83**
After Offerings	65	1896	61	712	72.70%	11.93**
Non-computer Industry						
Around Offerings	118	2596	113	1038	71.44%	13.32**
Prior to Offerings	116	1064	58	121	89.79%	37.55**
After Offerings	115	1532	109	917	62.56%	6.41**

Panel B: Changes in percentage of good news reports between pre- and post-offering periods

	N (IPO)	Mean	Std. Dev.	Max.	Med.	Min.	t-stat.
Full Sample	183	-28.34%	26.92%	100%	-26.60%	-100%	-14.24**
Computer Industry	65	-24.05%	19.79%	20%	-23.76%	-83.33%	-9.80**
Non-computer Industry	118	-30.70%	29.95%	100%	-30.51%	-100%	-11.14**

Panel C: Effects of news reports on long-run abnormal returns (LAR)

Changes in Percentage of Good News between Pre- and Post-offering Periods	N (IPO)	Mean (LAR)	t-stat.
Full Sample			
Low	91	-13.16%	-2.73**
High	92	41.60%	3.38**
Computer Industry			
Low	32	-0.68%	-0.08
High	33	109.56%	3.74**
Non-computer Industry			
Low	59	-17.62%	-2.98**
High	59	1.27%	0.22

Table 7. Variations of news reports and aftermarket performance across news categories

This table presents analysis on variations in news reports and their relation with aftermarket performance for the 183 sampled IPOs across various types of news classification. A news report is classified into one of the following eight categories according to the content of the news: 1) Earnings/Financials, 2) Strategy/Policy, 3) R&D/Production, 4) Personnel/Insider, 5) Marketing/Industry, 6) Price/Valuation, 7) Regulation/Law, 8) Others. Panel A shows the numbers of good and bad news reports for various time periods within each news category. News that is considered to have a positive (negative) impact on a firm is classified as good (bad) news. The period prior to the offerings refers to the one-year period preceding and including the day on which the IPO firm's closing price is first within the daily price limit. The period following the offerings spans over the time interval from the day following the first non-limit-hit day to the year-end of the next fiscal year. The period around the offerings is the combination of the pre- and post-offering periods. Percentage of good news reports is the ratio of the number of good news reports to the aggregate of good and bad news reports. Panel B reports changes in percentage of good news reports between the pre- and post-offering periods within each news category. Panel C reports the relationship between changes in percentage of good news reports and long-run abnormal returns within each news category. The long-run abnormal return is calculated by subtracting the corresponding market return from the long-run buy-and-hold IPO return over the post-offering period. Within each news category, IPO firms with complete data are further evenly divided into two portfolios according to ranks of these firms' changes in percentage of good news reports. Within each news category, Low and High accordingly represent the portfolios of IPO firms respectively with larger and smaller decreases in percentage of good news reports between the pre- and post-offering periods. N(IPO) is the number of IPOs in each portfolio. * and ** denote significance at the 5 and 1 percent levels respectively.

Panel A: Good and bad news reports by news category

Category	Good News		Bad News		Good & Bad News		Proportion of Good News	
	N(IPO)	Freq.	N(IPO)	Freq.	N(IPO)	Freq.	Percentage	t-stat.
				Earnings/Financials				
Around Offerings	167	1371	136	531	176	1902	72.08%	12.09**
Prior to Offerings	110	268	16	19	118	287	93.38%	24.19**
After Offerings	156	1103	132	512	171	1615	68.30%	8.90**
				Strategy/Policy				
Around Offerings	180	1070	40	71	180	1141	93.78%	53.28**
Prior to Offerings	177	779	23	26	177	805	96.77%	79.96**
After Offerings	92	291	21	45	99	336	86.61%	15.68**
				R&D/Production				
Around Offerings	156	938	37	68	160	1006	93.24%	44.47**
Prior to Offerings	104	348	5	7	105	355	98.03%	61.22**
After Offerings	140	590	35	61	145	651	90.63%	31.17**
				Personnel/Insider				
Around Offerings	41	60	12	18	48	78	76.92%	5.07**
Prior to Offerings	20	30	0	0	20	30	100.00%	∞**
After Offerings	25	30	12	18	35	48	62.50%	1.59
				Marketing/Industry				
Around Offerings	106	314	92	232	132	546	57.51%	3.11**
Prior to Offerings	37	55	10	12	41	67	82.09%	6.77**
After Offerings	95	259	91	220	128	479	54.07%	1.58
				Price/Valuation				
Around Offerings	157	1139	126	413	168	1552	73.39%	16.95 **
Prior to Offerings	63	313	27	40	75	353	88.67%	16.21**
After Offerings	152	826	115	373	160	1199	68.89%	12.54**
				Regulation/Law				
Around Offerings	11	16	94	312	96	328	4.88%	-37.20**

Prior to Offerings	7	11	30	55	31	66	16.67%	-8.64**
After Offerings	4	5	88	257	89	262	1.91%	-61.33**
				Others				
Around Offerings	144	647	83	179	159	826	78.33%	14.25**
Prior to Offerings	124	323	27	36	131	359	89.97%	22.11**
After Offerings	103	324	74	143	126	467	69.38%	7.04**

Panel B: Changes in percentage of good news between pre- and post-offering periods

Category	N (IPO)	Mean	Std. Dev.	Max.	Med.	Min.	t-stat.
Earnings/Financials	113	-25.59%	36.43%	100%	-20.69%	-100%	-7.47**
Strategy/Policy	96	-9.36%	29.79%	40.00%	0.00%	-100%	-3.08**
R&D/Production	90	-5.90%	19.16%	30.00%	0.00%	-100%	-2.92**
Personnel/Insider	7	-47.62%	50.40%	0.00%	-33.33%	-100%	-2.50*
Marketing/Industry	37	-24.82%	49.92%	87.50%	-27.27%	-100%	-3.02**
Price/Valuation	67	-9.41%	44.09%	100%	-18.75%	-100%	-1.75
Regulation/Law	24	-8.10%	18.24%	11.11%	-50.00%	-11.11%	-2.18*
Others	98	-14.94%	34.95%	66.67%	0.00%	-100%	-4.23**

Panel C: Effects of changes in news quality on long-run abnormal returns (LAR)

Changes in Percentage of Good News between Pre- and Post-offering Periods	N (IPO)	Mean (LAR)	t-stat.
Earnings/Financials			
Low	56	0.20%	0.03
High	57	47.56%	2.81**
Strategy/Policy			
Low	20	4.88%	0.25
High	76	36.40%	2.62**
R&D/Production			
Low	18	8.43%	0.49
High	72	37.30%	2.42*
Personnel/Insider			
Low	3	-59.94%	-3.88**
High	4	-37.23%	-1.58
Marketing/Industry			
Low	18	0.61%	0.03
High	19	53.36%	2.46*
Price/Valuation			
Low	33	25.56%	1.40
High	34	46.67%	1.83
Regulation/Law			
Low	5	23.58%	1.51
High	19	-0.55%	-0.03
Others			
Low	44	24.06%	1.15
High	54	23.26%	2.01*

Table 8. News reports categorized by forward-looking and historical statements

This table presents analysis of the good and bad news reports whose content can be classified into either forward-looking or historical for the 183 sampled IPOs. The full sample is further divided into two sub-samples respectively for IPOs in the computer and non-computer industries. News that is considered to have a positive (negative) impact on a firm is classified as good (bad) news. A news report is categorized as forward-looking if it is about the future and historical if it is related to the past. The period prior to the offerings refers to the one-year period preceding and including the day on which the IPO firm's closing price is first within the daily price limit. The period following the offerings spans over the time interval from the day following the first non-limit-hit day to the year-end of the next fiscal year. The period around the offerings is the combination of the pre- and post-offering periods. Percentage of forward-looking news reports is the ratio of the number of forward-looking news reports to the aggregate of forward-looking and historical news reports.

	Good News			Bad News		
	Forward-looking	Historical	Percentage of forward-looking	Forward-looking	Historical	Percentage of forward-looking
Full Sample						
Around Offerings	2074	3470	37.41%	314	1465	17.65%
Prior to Offerings	926	1195	43.66%	13	174	6.95%
After Offerings	1148	2275	33.54%	301	1291	18.91%
Computer Industry						
Around Offerings	1042	1911	35.29%	139	636	17.94%
Prior to Offerings	392	669	36.95%	5	67	6.94%
After Offerings	650	1242	34.36%	134	569	19.06%
Non-computer Industry						
Around Offerings	1032	1559	39.83%	175	829	17.43%
Prior to Offerings	534	526	50.38%	8	107	6.96%
After Offerings	498	1033	32.53%	167	722	18.79%

Table 9. Regression analysis of concealment strategies and aftermarket performance

This tables presents regression analysis of the relationships between the three concealment strategies and aftermarket performance for the 183 sampled IPOs. The news management variable is proxied by the change in percentage of good news reports between the pre- and post-offering periods. News that is considered to have a positive (negative) impact on a firm is classified as good (bad) news. The pre-offering period refers to the one-year period preceding and including the day on which the IPO firm's closing price is first within the daily price limit. The post-offering period spans over the time interval from the day following the first non-limit-hit day to the year-end of the next fiscal year. Percentage of good news reports is the ratio of the number of good news reports to the aggregate of good and bad news reports. The earnings management variable is measured by the change in industry-adjusted ROA between fiscal years preceding (i.e., Year -1) and following (i.e., Year 1) the IPO fiscal year (i.e., Year 0). The error in earnings forecasts is measured by the difference between forecasted earnings and realized earnings divided by the absolute value of forecasted earnings for the IPO year. The dependent variable of all the regressions is the long-run abnormal return, which is calculated by subtracting the corresponding market return from the long-run buy-and-hold IPO return over the post-offering period. The industry dummy takes on the value of 0 if an IPO firm is in the computer industry and 1 otherwise. Firm size is the market value of the IPO firm at the offering and is denominated in billions of New Taiwan dollars. Firm age is the number of years that the IPO firm has been in existence before going public. The institutional holding is the proportion of shares held by institutional investors at the offering. The insiders' holding is the proportional ownership of shares held by the managers of the IPO firm at the offering. IPO percentage is the fraction of total shares for an IPO. Quality of the auditor is a dummy variable which takes on the value of 1 if the auditor is from the big four accounting firms and 0 otherwise. Reputation of the underwriter is a dummy variable that takes on the value of 1 if the underwriter's sales in the past three years were in the top half of all the underwriters' and 0 otherwise. Market timing is a dummy variable that takes on the value of 1 if the ratio of averages of daily market index for the 1-month and 12-month periods preceding the IPO application is greater than 1 and 0 otherwise. t-statistics are calculated using White's (1980) heteroskedasticity-consistent covariance estimators. * and ** denote significance at the 5 and 1 percent levels respectively.

Variable	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
Intercept	75.08 (3.91)**	72.75 (4.84)**	60.19 (3.50)**	84.66 (5.06)**	46.40 (1.77)
Industry dummy	-57.98 (-3.56)**	-70.96 (-4.44)**	-62.70(-3.69)**	-64.13 (-4.14)**	-57.58 (-4.70)**
News management	0.82 (3.83)**			0.62 (2.91)**	0.66 (2.95)**
Earnings management		3.05 (2.51)*		2.10 (1.48)	1.85 (1.25)
Earnings forecasts			-0.47 (-4.17)**	-0.24 (-1.71)	-0.23 (-1.67)
Firm size					-0.03 (-0.13)
Firm age					-0.83 (-1.44)
Institutional holdings					-0.51 (-2.32)*
Insider's holdings					0.26 (0.96)
IPO percentage					0.03 (2.01)*
Auditor quality					5.60 (0.58)
Underwriter reputation					-1.78 (-0.17)
IPO market timing					-5.19 (-0.39)
Adjusted *R*-square	0.15	0.15	0.13	0.18	0.21
F-statistic (*p*-value)	17.24 (0.00)	16.45 (0.00)	15.17 (0.00)	11.14 (0.00)	4.92 (0.00)
Number of IPOs	183	183	183	183	183