The Effects of Earnings/Sales Forecasts Disclosure on IPO Underpricing

Authors:

Min Jung Kim[1)]

Xuan Gong[2)]

Jin San Kim[3)]

(Abstract)

This paper shows the relationship between the initial public offering (IPO) firms' earnings/sales forecasts disclosure behavior and the underpricing phenomena in Chinese IPOs from 1992 to 2012. In April 1993, China began developing its stock market. The initial regulations from the China Securities Regulatory Commission (CSRC) required listed companies to disclose the earnings/sales forecasts, and listed this as one of the indicators of the audit. In March 2001, the CSRC changed the earnings/sales forecasts policy from mandatory to voluntary disclosure.

First, before the CSRC changed the earnings forecasts policy form mandatory to voluntary disclosure, the IPO underpricing ratio for the IPO firms that did not disclose earnings/sales forecasts was higher than for those that disclosed earnings/sales forecasts. After the policy changed, most IPO firms chose not to disclose the earnings/sales forecasts in order to raise the underpricing ratio to attract primary or institutional investors.

Second, the disclosed earnings/sales forecasts affected the underpricing ratio negatively. The higher disclosed earnings/sales forecasts did not raise the underpricing ratio, indicating that investors did not use the earnings/sales forecasts as a reference. Therefore, IPO firms did not need to disclose earnings/sales forecast information.

Third, from 1992 to 2012, the disclosure of earnings/sales forecasts positively affected the underpricing ratio. The IPO underpricing ratio for the firms that disclosed earnings/sales forecasts was higher than for those that did not disclose earnings forecasts. The results show that the

1) Graduate student at Kyungpook National University: kmj0223@knu.ac.kr
2) Graduate student at Kyungpook National University: gongxuannile@naver.com
3) Assistant professor at Kyungpook National University: jsk89@knu.ac.kr

underpricing ratio for the IPO firms that decided not to disclose earnings/sales forecasts was not increased but rather decreased.

In conclusion, the results indicate that disclosing the earnings/sales forecasts influenced the underpricing ratio significantly, were conductive to attracting primary investors, and influences secondary investors' choices. However, the precondition is that the IPO firms should publish the earnings/sales forecast information integrally, reliably, timely, and accurately. The Chinese government should encourage the IPO firms to publish their earnings/sales forecasts voluntarily, accurately, and in a timely manner while also creating regulations on voluntary earnings/sales forecasts disclosure to improve the current situation.

Key words: IPO underpricing, disclosure, earnings forecasts

1. Introduction:

With the continuous development of the market economy, stock markets have been an important part of the capital market, used by firms to raise funds by issuing stocks. An IPO (initial public offering) refers to the process of firms "going public" by issuing shares to the public to raise money. The shares are then transacted in a secondary market, such as the New York Stock Exchange (NYSE). A successful IPO allows a firm to expand its financing scale, and can improve its capital structure.

Rational pricing is core to the IPO process. New stock pricing is generally divided into two steps: first, the estimation of stock valuations or company valuations; and second, the ultimate determination of the stock price. A variety of formulation theories and models, such as the discounted cash flow model, economic value added model, or relative valuation model provide a broad estimate of the company valuation. The valuation should be based on a deep understanding of the issuers and a comprehensive analysis of the industry. Its main purpose is to determine the intrinsic value of the stock beforethe underwriter chooses the best issue method from among a variety of auction systems specific to the pricing, including online and offline bidding. The discovery of the appropriate price is based primarily on a full analysis and the bidding mechanism. The combination of stock value discovery and price discovery provides a reasonable market price.

As a major economic reform measure, China established stock exchanges in Shanghai and Shenzhen in 1990 and 1991, respectively. Chinese authorities played a dominant role in the early development of the stock market. These controls distorted the market mechanism, and may have led to significant IPO underpricing. In April 1993, regulations on stock issuance and trading management were

published, marking the formal approval of the authorizing system implementation. Under this system, the process, from choosing to releasing the listed firms, was controlled by the government. Therefore, the market did not effectively perform the self-regulatory function, and the intermediary institutions had limited scope to guarantee the quality of listed firms. The period of June 1999 to March 2001 was a transition phase from the authorization system to the approval system, implemented in April 2001. This system added flexibility to the market, and firms were responsible for their own public information.

IPO firms transition from a private firm to a publicly listed firm through the stock market. For investors, IPO firms increase their investment opportunities. IPOs are severely under-valued by issuers and underwriters at the offer, but over-valued by investors on the listing day. Both contribute to the severe underpricing of IPOs in China.

Underpricing of an IPO occurs when the initial market price of a newly listed stock exceeds its offer price. Stoll and Curley (1970), Logue (1973), and Ibbotson (1975) first documented this phenomenon, and it remains a popular foreign and domestic research topic. In fact, empirical evidence has found evidence of IPO underpricing in many financial markets in different countries. Loughran, Ritter, and Rydqvist (1994) provided evidence of IPO underpricing in 25 countries, highlighting that IPO underpricing occurs less in developed markets than in developing markets. Updated international average initial returns for more than 13 countries, including China, are available from Ritter's IPO homepage. Among the evidence of IPO underpricing, the degree of severe IPO underpricing in China is the most alarming.

Miller and Reilly (1987) subsequently confirmed that the new stock's offer price is 9%-15.3% lower than the closing price on its first trading day. Besides the US, other countries also have generally experienced the phenomenon of IPO underpricing to varying degrees, with the average range of IPO underpricing at 4.2%-388%. Usually, the degree of IPO underpricing in developed countries is

lower, with an average range of 15%-20%. In contrast, average range of IPO underpricing in emerging markets is higher, at 40%-60%. For instance, Malaysia's average IPO underpricing rate was 80.3% between 1980 and 1991, and China's highest underpricing rate reached a staggering 388%. The IPO underpricing rate is an important difficulty facing China's stock market.

In the capital market, earnings forecast information has been an object of discussion and concern for investors, creditors, policy makers, and theorists. Therefore, the IPO information disclosure plays an important function in the fund flows in the stock market. With the rapid development of China's securities market, internationalization and normalization are gradually improving. It is not only having a direct influence on investors' profits, but also directly on the health of the securities market. Accounting information is an important basis for decision-making, and as an important part of securities market, companies and investors pay close attention to voluntary disclosures. The earnings forecast in IPO information disclosures are especially important for investors.

According to the asymmetric information hypothesis, the voluntary earnings forecasts publishing system can be used to understand the published information. So if earnings forecasts have information content, it will reduce the degree of information asymmetry when other information is equal, thereby influencing the IPO price. In this way, IPO price can more accurately reflect the intrinsic value of company, reducing IPO underpricing. Hanley (1993) argues that underpricing compensates informed investors (usually institutional investors) for revealing private information. Baron (1982) suggests that underpricing is caused by asymmetric information between issuers and investors, so issuers underprice as compensation to investors. The China Securities Regulatory Commission (CSRC) changed its earnings forecasts policy from mandatory to voluntary disclosure on March 15, 2001, though a majority of IPO companies decided not to disclose the information of their earnings forecasts after the policy change.

This research is exactly from this angle, adopting normative and empirical study methods, to analyze the usefulness of voluntary earnings forecasts disclosure and its influence on IPO underpricing. The samples were selected from 2457 IPO companies listed in the China Shanghai Stock Exchange and Shenzhen Stock Exchange from 1992 to 2012.

This paper documents several new findings. According to the analysis results, earnings/sales forecast disclosures influenced the underpricing ratio significantly. This attracts primary investors and influences the secondary investors' options. However, the precondition is that the IPO firms should publish the earnings/sales forecast information integrally, reliably, accurately, and in a timely manner. The Chinese government should encourage IPO firms to publish their earnings/sales forecasts voluntarily, accurately, and at the appropriate time. The government should also create regulations on voluntary earnings/sales forecast disclosures to improve the current situation.

In the remainder of this paper, the next section reviews some of the institutional background of the IPO market and earnings forecasts in China. Section 3 provides a literature review. Section 4 develops the hypothesis and reaches the methodology. Section 5 describes the data, and section 6 shows the empirical results. Section 7 offers conclusions and the study limitations.

2. Institutional Background

2.1 The Status of Chinese Listed Companies' Earnings Forecast Information Disclosure

The regulation of earnings forecasts disclosure in Chinese IPO companies covered both mandatory and voluntary disclosure. On April 22, 1993, China began developing its stock market after the initial release of the CSRC required listed companies to disclose the company's earnings forecasts, and listed this as one of the indicators of the audit. There were no detailed regulations covering earnings forecast disclosures before this time, when the State Council issued "the

provisional regulation of stock issue and trade"as the first law listing the normal requirement for earnings forecast information disclosure. For some time, China's stock issuing system was a quota system with a strong administrative influence. This system lacked transparency, from selecting the companies to going public. The market could not discipline itself efficiently, leading some listed companies to intentionally conceal important information at stock issue, hiding trouble from the market, creating information disclosure vulnerability, and violating investors' interests. In this environment, the change to the quota system became inevitable. The transformation since September 2000 has led to an easing in the mandatory disclosure requirements for earnings forecasts.

The primary purpose of information disclosure regulation in China is to improve the efficiency of the Chinese stock market and protect investors' interests. Information disclosure regulation should properly balance the protection of investors and the reduction of the issuers' disclosure cost. It should reduce unnecessary disclosure requirements to improve the overall efficiency of information disclosure regulation on the premise of protecting the interests of investors. Mandatory disclosure of earnings forecasts ensured that investors received useful information in time while improving the securities market efficiency.

However, the mandatory disclosure requirements will lead corporate management to manipulate earnings forecasts and provide false information to mislead investors when the information reflects poorly on the company or involves excessive trade secrets. The result is that earnings forecast information will gradually lose its role in the securities market, also affecting securities market efficiency. The institutional arrangements of voluntary disclosure can aid management in manipulating earnings forecast information toa certain extent. The irrationality of the earnings forecasts mandatory disclosure led the CSRC to release "the information disclosure content and format guidelines for IPO firms No. 1 - the prospectus." The earnings forecasts disclosure policy was changed from mandatory

to voluntary on March 15, 2001. However, because the share issue price is based on a number of earnings per share forecasts and the IPO P/E ratio, in practice, many companies still have to calculate and disclose earnings forecasts. In order to prevent earnings forecast overestimation, the CSRC released "certain provisions of the stock issue to work on notice" on December 26, 1996. When earnings fall outside of this range, the companies and the firms employing the certified public accountants shall offer a public explanation and apology in the designated publication. In addition, if the number is lower than the forecast by 20% or more, the CSRC will review the case and apply the appropriate sanctions stipulated in the relevant laws and regulations on the company for issuing falsified earnings forecasts intended to mislead investors, and on the accounting firms and CPAs. These rules constraining the profit forecast overestimates of listed companies has an effect, though the 10% and 20% interval also inevitably leads listed companies in China to avoid legal liability and relevant management issues.

After the changes to the IPO share issue pricing policy, the influence of earnings forecasts on the share issue price declined. It has been shown that there is a tendency of Chinese listed companies to increase the amount of funds raised by manipulating the earnings forecasts, after decreasing the impact that earnings forecasts have on the share issue price, significantly decreasing the degree of deviation from earnings forecasts (Li Linjie and Xu Xiaowei, 2002). In China, the current earnings forecast rule is "if the issuer or financial adviser or underwriter believes that providing earnings forecasts data will help investors and issuers to make the right judgments, and the issuers ensure they are able to make realistic predictions from recent earnings for future periods, the issuer may provide earnings forecasts data in the prospectus." Earnings forecasts should be "on the basis of general economic conditions, business environment, market conditions, the issuer's operations, financial condition and other conditions under reasonable assumptions, according to the issuer's normal pace of development, in line with the principle of prudence."

Jiang Yihong (2002) showed that the IPO pricing was based on earnings forecasts in the years 1996, 1998, 1999, in order to raise more funds. The Chinese listed companies experienced the overestimated earnings phenomenon; while after the decline of the impact of earnings forecasts on IPO pricing in 1997 and 2000, Chinese listed companies tended to underestimate earnings forecasts to avoid the penalty. This demonstrates serious opportunism in the earnings forecast information disclosures of listed companies in China. As the earnings forecasts do not provide useful accounting information for shareholders, but serve the purpose of raising more funds or avoiding punishment from the CSRC, investors making investment decisions according to these earnings forecast disclosures take on higher risk. At the same time, due to the lack of perfect competition in the market mechanism, an effective securities market in China, or completed legal mechanisms and a legal environment like the United States, Chinese investors are dissatisfied with the forecast statements, and have little motivation to sue. Even with motivation, but also because The China Securities Act does not provide for civil compensation for aggrieved investors, conducting proceedings without proper procedural rules or precedents to follow, so motivated investors can end up with nothing. These factors have led to a lack of pressure from the market and restrictions to civil liability for earnings forecast information disclosures for publishers, and no guarantee of integrity, reliability, or timeliness in earnings forecast disclosures.

2.2 Characteristics of Chinese IPOs

There are two major differences between Chinese IPOs and those in western countries. First, most western countries have a capitalist economic system, while China is a socialist country, and the vast majority of IPOs are partial privatizations. Privatization raises many additional concerns since the government often attempts to achieve multiple objectives via privatization, such as the extension of private share ownership, and maintaining government credibility and

efficient control of the economy. Such objectives can incentivize the government to underprice the shares of privatized companies, viewing the forgone revenue as the price of achieving such objectives.

Second, in most western countries, the stock market is a real market-investment intermediary and issuers price IPOs considering their financial status and market situation. The history of China's stock markets is short, so the government plays an important role in the market's development to control risks and avoid a crash. In the primary market, the government sets the quota for companies allowed to go public, prices IPOs for issuers with little feedback from the market, and times IPOs according to the market's performance.

The offer price is chosen by the CSRC days or months before market trading starts. In most cases, there is little feedback through market demand to allow for an adjustment in the offer price (Su and Fleisher, 1999). In fact, underwriters and issuers do not have the right to price IPOs. The CSRC also determines the timing of IPOs based on the market situation and capacity.

Since 2004, the secondary market share prices have fallen, with some listed shares breaking the issue price. Investors began to lose confidence in the stock market, with the obvious flaws of the pricing method and strong administrative characteristics. The distribution rights are highly concentrated in the government's hands. In order to protect the legal rights and interests of investors, strengthen market constraints, and improve the mechanism for the formation of share issue price, the CSRC issued a trial implementation of a price inquiry system for the IPO of shares in 2004, officially starting on January 1, 2005. The issuer and its sponsor institutions should conduct a book-building price inquiry with institutional investors to determine the issue price; the pricing mechanism should reflect a full analysis of the industry, competitiveness, and growth prospects from the underwriter. The issue price should be based on a number of enterprise indicators, a model calculated to obtain the enterprise value, and the combination of secondary market conditions and business coordination.

3. Literature Review

3.1 IPO Theory and Phenomenon

The underpricing of an IPO occurs when the initial market price of a newly listed stock exceeds its issue price. It was first documented by Stoll and Curley (1970), Logue (1973), and Ibbotson (1975). Domestic and foreign researchers have studied the issue extensively. Indeed, empirical evidence of underpricing has been found for many financial markets in different countries. The previous literature on the IPO underpricing phenomenon focused on the severity and causes. No complete explanation of the underpricing phenomenon exists, though various theories based on different rationales shed light on potentially influential factors. These include information asymmetry (Baron, 1982), signaling theory (Allen and Faulhaber, 1989; Grinblatt and Hwang, 1989; Welch, 1989; Benveniste and Spindt, 1989), legal liability and litigation risk (Tinic, 1988; Hughes and Thakor, 1992), and ownership dispersion (Booth and Chua. 1996) and information cascade effects (Welch, 1992).

3.1.1 Asymmetric Information

In a study by Welch and Ritter (2002), firms go public primary because they have “the desire to raise equity capital for the firm and to create a public market in which the shareholders can convert some of their wealth into cash in the future.” According to Leland and Pyle(1977), the firm could signal its value to outsiders by retaining its own shares (Eisenbeis, McEnally, 1995)[4] who also introduced the concept of information asymmetry among the investors of financial intermediaries.Chemmanur and Fulghieri(1994) found that the investment banker produces more information to reduce information asymmetry between issuers and

4) Eisenbeis, R. and R. W. Mcenally(1995), “Initial Public Offerings: Finds and Theories Editors,” University of Northe Carolina at Chapel Hill. Kluwer Academic Publishers, Norwell, pp. 28-61

investment bankers. Zingales (1995) presents life cycle theory in IPOs, suggesting that it is much easier for a potential acquirer to find a potential target for takeovers when it is public.

Signaling

Ibbotson (1975) explains underpricing is a signal used so that "future underwritings from the same issuer could be sold at attractive prices." When the issuer is more informed than investors, "it signals to the market by selling deliberately its shares at a lower price than that the market believes they are worth, thus deterring a poor of low-quality issuer from mimicking, and the issuer can get compensation later from future issuing activities."(Welch, 1989), "favorable market responses to future dividend announcement" (Allen and Faulhaber, 1989), or "analyst coverage" (Chemmanur, 1993). Michealy and Shaw (1994) find that the hypothesized relation between initial returns and subsequent seasoned new issues does not exist. In a simultaneous equation model, they find no evidence either of a higher propensity to return to the market for a seasoned offering or of a higher propensity to pay dividends for IPOs that were more underpriced.

Winner's Curse

Kevin Rock (1986) proposed the winner's cures as a main explanation for IPO the puzzle. "Pricing too high might result in a winner's curse" (Rock, 1986) or "a negative cascade" (Welch, 1992). In the new issues market, Rock argues that rationing will result if IPO demand is unexpectedly strong. Informed investors will attempt to buy shares only when an issue is underpriced. Uninformed investors do not know which issues will be underpriced or overpriced, so they will be allocated only a fraction of the most desirable new issues, and allocated all of the least desirable new issues. Faced with this adverse selection problem, uninformed investors will usually submit purchase orders only if IPOs are underpriced enough to compensate them for the bias in the allocation of new issues. Beatty and Ritter

(1986), Koh and Walter (1989), and others provide empirical evidence consistent with Rock's (1986) model. However, some recent research suggests that underpricing occurs independently of the winner's curse effects. Ritter and Welch (2002) argue that asymmetric information is not the primary factor in many IPO phenomena and believe research into share allocation issues is the most promising area of IPO study.

3.1.2 Book Building Theory

Loughran et al. (1994) introduced the auctions, fixed price offers, and book building methods in IPOs. Benveniste and Spindt (1989), Benveniste and Wilhelm (1990), and Sherman (2005) argued that the book building method may provide an opportunity for underwriters to obtain information from informed investors. With the book building method, a preliminary offer price range is set, and then underwriters undertake a road show for potential investors in order to measure demand.Consistent with the information revelation theory of book building, Lee, Taylor, and Walter (1999) and Cornelli and Goldreich (2001) showed that informed investors request more allocations, and they always preferentially receive more allocations.In related work, Cornelli and Goldreich (2002) examine orders placed by institutional investors and find that underwriters set offer prices that are more related to the bid prices than to the quantities demanded.

Book Building Theory provides a useful perspective on information gathering, but the theory also suggests that the information provided by one incremental investor is not very valuable when the investment banker can imagine hundreds of potential investors. Thus, the theory does not seem to be capable of explaining a high average level of underpricing. The average underpricing of 53% between 1980 and 2001 in the US (the offer price having been revised upwards), seems too large to be explained as equilibrium compensation for revealing favorable information.

3.1.3 Legal Liability and Litigation Risk

Tinic (1988) and Hughes and Thakor (1992) show that issuers underprice to reduce their legal liability: a lower price is less likely to attract a lawsuit than a higher price because it increases the likelihood of an aftermarket share price drop below the offer price.However, underpricing an IPO seems a very costly way to avoid lawsuits. Furthermore, countries without such securities class action lawsuits have just as much, or even higher, underpricing as in the US, and Keloharju (1993) argues that legal liability is not the primary determinant of underpricing.

3.1.4 Ownership Dispersion

Brennan and Franks (1997) argue that insiders have an incentive to underprice the IPO of their firm's stock in order to ensure its wide distribution, thereby reducing the likelihood of being monitored or removed by new shareholders, particularly institutional shareholders, called the reduced monitoring hypothesis. Consistent with their hypothesis, for a sample of 69 UK IPOs between 1986 and 1989, they find that smaller applicants are allocated a larger share of oversubscribed/underpriced issues, and the size and amount of subsequent outside large shareholdings are inversely related to the firm's degree of IPO underpricing. Stoughton and Zechner (1998) posit that large investors provide more monitoring than small investors do, and that an IPO firm's revenues increase as a result of outside monitoring.

Most papers studied underpricing for the short-term IPO performance. Short-term returns, called initial returns, in pricing are usually measured as the first-day price return of the stock, the difference between the offer price and the first-day closing price. There are many studies covering initial underpricing, and almost all of them show a positive average first-day return. Ljungqvist and Wilhelm (2003) found an "average initial return of 35.7% in a sample of IPOs issued between 1996 and 2000 in the United States."

3.2 The IPO Phenomenon in China

Because of many unique traits in the Chinese transitional policies, economy, and cultural environment, many empirical studies have focused on the extremely high initial returns in China. According to Procianoy and Cigerza (2007), IPOs are widely researched in Europe, the United States, and the other developed financial markets, but not so well in large emerging markets, such as China, India, and Brazil.

Chan, Wei and Wang (2003) found empirical evidence that the operating performance actually deteriorates post-IPO; therefore, it is not necessary to underprice the IPO to signal potential quality. Liu (2003) finds that asymmetric information theories cannot explain the high degree of underpricing in Chinese A-class sharesbetween 1999 and 2002. Chi and Padgett (2005), using 668 Chinese IPOs where over 90% of them are partial privatization IPOs, show that during privatization, the government does not signal the quality of the issuers by underpricing.

Liu (2003)[5] found only weak evidence for the winner's curse hypothesis using data from China's IPO market from 1999 to 2002. Instead, only the IPO size has a statistically significant negative relationship with the level of the market-adjusted initial returns. Chen et al(2004, a) reported an average initial underpricing of 298% and 25% for A- and B-class shares, respectively, issued between 1992 and 1997. They found that smaller modern industrial firms have a high concentration of indirect state shares including employee shares and legal persons, andon the contrary, larger traditional industrial firms have a high concentration of direct state shares. Chan et al. (2004) found initial underpricing of Chinese IPOs with the sample of 570 A-class shares and 39 B-class shares issued between 1993 and 1998 near 178% and 11.6%, respectively. They found that A-class share returns were worse than B-class share returns in the long term. In order to analyze

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5) Liu, T.(2003), "Investment without risk: an investigation into IPO underpricing in China," *The China project report,* No.4, the Royal Institute of International Affairs and Cambridge University.

short-term and long-term performance, Chi and Padgett (2005, a) studied 340 and 409 IPOs issued in 1996 and 1997, respectively, and found initial returns of 127.3% and a 3 year buy-and-hold-average-return of 10.7%. Chi and Padgett (2005, b) studied 668 IPOs issued in Shanghai and Shenzhen between 1996 and 2000, and found demand to the offer of shares is 50 to 1. Yu and Tse (2005) reported average first-day returns of 123.59% of 343 A-class shares issued between 1995 and 1998. They tested Rock´s (1986) winner's curse model and found that the initial return model suits Chinese IPOs; however, the signal hypothesis was rejected with conflicting results.

In China, both the firm and the underwriter are related to the government. This suggests that lawsuit avoidance is unlikely to be a motivation for underpricing. The government owns at least 50% of the shares in most IPOs; therefore, control aspects are very unlikely to play a meaningful role. Moreover, price support does not exist, further weakening the case for the lawsuit avoidance theory.

Procianoy and Cigerza (2011) compared IPOs in Brazil, India, and China. They found that Brazilian, Indian, and Chinese IPOs have similar features, but the experiment showed different results in short-term performance and different signals for long-term performance.

3.3 Earnings Forecasts Information Disclosure

The study on earnings forecasts by foreign researchers mainly includes five aspects: earnings forecasts motivation, earnings forecasts disclosure strategy, the market reaction to earnings forecasts, the accuracy of earnings forecasts, and the relationship between security analyst's prediction and earnings forecasts. According to Penman (1980), firms voluntarily disclosing earnings forecast information tend to have better performance, and poorly performing firms tend not to disclose earnings forecast information voluntarily.

The foreign research on the motivation theories for voluntary disclosure of earnings forecast information mainly include:

Agency Theory

The larger the company is, the greater the agency costs; and the greater the agency costs, the greater the likelihood that company management will disclose earnings forecast information to reduce the agency cost (Gaber, 1985).

Information Equilibrium Theory

Firms that voluntarily disclose earnings forecast information tend to have better performance, while poorly performing firms tend not to disclose earnings forecast information voluntarily. Management is motivated to reduce the information asymmetry that exists between shareholders. When the company managers observed a significant deviation from their own expectations of financial performance, they will disclose earnings forecast information to influence market expectations (Han, 1994).[6)]

New Capital Demand Hypothesis

The requirement for new capital can prompt managers at US companies to initiate the disclosure of earnings forecast information (Ruland, Tung and George, 1990).

"(1) The disclosure of good news and bad news yields significant positive and negative supra-normal return respectively; (2) the more the difference between the earnings forecasts and the market expected earnings are, the greater the supra-normal return is" (Waymire 2003). Pownall, Wasley and Waymire (2005) used 1252 earnings forecasts of 91 listed companies from 1996 to 2004 as research samples, and analyzed the market reaction to different forecast information types. Holthausen and Verrecchia (2003), Oliver, Kim and Robeg

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6) Han, J. C. Y.(1994), "Empirical Research in Earnings Forecasts[J]," *The Chinese Accounting Review,* pp. 81-99.

Verrecchia (2005) found that the higher the accuracy of earnings forecast information, the more investors depend on earnings forecast information. Robert Libby and Hum-tong Tan (1999) studied securities analysts' preferences, feelings, and evaluations of earnings forecasts.

Chinese researchers have begun to pay close attention to the earnings forecast disclosures of listed companies since the system was introduced in 2000.Yang Ping (2010) analyzed the accuracy, timeliness, and correction results of earnings forecast information of listed companies, using earnings forecasts from 2006 to 2008 as research samples, drawing three conclusions. "(1) the accuracy of earnings forecasts increases while the timeliness decreases; (2) managers prefer optimistic estimations when facing bad news; and (3) there is still a huge gap between revised earnings forecast and actual results."Guo Na, Qi Huaijin (2010) analyzed the relationship between earnings forecast disclosures and earnings management using Chinese A-class shares from 2007 to 2008 and made three conclusions: "(1) the earnings management level of the companies who disclosed their earnings forecasts is higher than those who did not; (2) the earnings management level of the companies mandated to disclose their earnings forecast is higher than those for voluntary companies; (3) companies with small-sized assets, low-level profitability, and liabilities are more likely to be engaged in earnings management."Currently, there are few studies about the factors that influence the willingness of listed companies to disclose earnings forecasts.

4. Hypothesis Development and Methodology

4.1 Hypothesis Development

After the CSRC changed the earnings forecasts policy from mandatory to voluntary disclosure, most Chinese firms stopped disclosing earnings forecasts. To understand the factors leading to this outcome, this paper investigates whether this can be explained by examining the relationship between firms' voluntary disclosure behavior and the IPO underpricing degree. The CSRC began a trial

implementation of the price inquiry system for IPOs in 2004, and officially launched on January 1, 2005. Before 2004, the offer price was chosen by the CSRC based on price earnings ratio, leaving underwriters and issuers without the right to price IPOs. Most literature reviews on IPO underpricing show that the IPO underpricing ratio should be reduced to make the allocation of capital efficient. This paper infers that a high IPO underpricing ratio can attract more primary market and institutional investors. From the viewpoint of firms, they can gain more profit.

Chemmanur and Fulghieri (1994) explained that the investment banker produces more information to reduce the information asymmetry between issuers and the investment banker, so here it is supposed that the earnings/sales forecasts disclosure can reduce the information asymmetry and reduce the underpricing ratio.

From the earlier discussion and the characteristics of Chinese IPOs, firms' voluntary disclosure behavior can affect the level of IPO underpricing. Therefore:

Hypothesis 1: The disclosure of earnings/sales forecasts affects the IPO underpricing ratio negatively.

Hypothesis 1-1: The disclosure of earnings forecasts affects the IPO underpricing ratio negatively.

Hypothesis 1-1: The disclosure of sales forecasts affects the IPO underpricing ratio negatively.

Hypothesis 2: The higher the firms' earnings/sales forecasts are, the lower the level of IPO underpricing.

Hypothesis 2-1: The disclosed net earnings forecasts by firms are negatively related to the IPO underpricing ratio.

Hypothesis 2-2: The disclosed total sales forecasts by firms are negatively related to the IPO underpricing ratio.

4.2 Model and Variables

4.2.1 Description of Variables

In this paper, the underpricing ratio (UPR) is used as a dependent variable, representing the degree of underpricing of the IPO firm. UPR is calculated using offer price and the opening price on the list day [(Opening Price of the listing Day- Offer Price)/Offer Price]. Therefore, the larger the underpricing ratio, the higher the degree of initial underpricing. The explanatory variables representing the hypotheses and control variables are summarized in Table 1.

<Table 1> Definition of Variables

Dependent Variable:
UPR underpricing ratio: (Opening Price of the listing Day-Offer Price)/Offer Price
Explanatory Variables:
Earnings-FOR: ln(Net earnings forecasts)
Earnings-FORD: Dummy for net earnings forecasts. If the firm disclosed the net earnings forecasts it will be 1, otherwise 0.
Sales-FOR: ln(total sales forecasts)
Sales-FORD: Dummy for Sales forecasts. If the firm disclosed the total sales forecasts it will be 1, otherwise 0.
Control Variables:
ln(SUB): Natural Logarithm of The Subscription Ratio. ln (1 / the success rate of online distribution)
MKTR: Market Return. The cumulative market returns which accumulated from 20days before the listing day.
COSTPS: Issue cost Per Share. (Total Issue Cost/The Circulation)

ln(Proceeds): The scale of the public offering. ln(Offer Price × The Number of The Issued Shares)

The earnings/sales forecasts and their dummy variables are used as the explanatory variables to determine they affect the underpricing ratio.

The subscription is measured as the total number of shares acquired by investors on the day of offering. Wang Yafeng(2008) found that the subscription rate is positively related to underpricing. The natural logarithm of this value is used as a control variable and it is expected to relate positively to underpricing. Yu et al. (2005) tested the ex-ante uncertainty hypothesis using proceeds and the after-market returns standard deviation, and found that proceeds are negatively related to underpricing, while the after-market returns standard deviation positively related to underpricing. This paper uses the pre-market return that the cumulative market returns accumulated from 20days before the listing day. It is expected that the pre-market return is also positively related to underpricing. Chi and Padgett (2005a, 2005b) found that government ownership is positively related to underpricing, proceeds, the natural logarithm of proceeds, and the amount of shares held by public institutions are negatively related to underpricing. This paper uses the natural logarithm of proceeds as control variables and expects it is negatively related to underpricing. The proceeds are calculated by using the natural logarithm of (Offer Price and the number of Issued Shares) and expect it is negatively related to IPO underpricing. According to an empirical study on IPO underpricing in China, it suggested that the issue cost per share is negatively related to underpricing. When companies issue common stock, the stock is sold through underwriters to their institutional clients. The underwriters earn an issuance fee for their service from issuers. So the higher the distribution costs, the higher the reduction in invisible profits earned by underwriters from underpricing. Issue cost per share is calculated using Total Issue Cost and the Circulation (Total Issue Cost/ Circulation). This is used as a control variable and expected to be negatively related to the IPO underpricing.

The variables, notations, and estimated signs in coefficients, from prior research and this paper are summarized in Table 2.

	Prior Research		In this paper		
Variables	**Prior Research**	**Research results**	**Variables**	**Expected effect**	
Dummy for earnings forecasts (before 2001)			Earnings-FORD	(-)	Hypothesis 1
Dummy for Sales forecasts (before 2001)			SALES-FORD	(-)	Hypothesis 1
Earnings Forecasts			Earnings-FOR	(-)	Hypothesis 2
Sales Forecasts			Sales-FOR	(-)	Hypothesis 2
Subscription Ratio	Xu qian(2009) Ni Chao(2009)	(+)	ln(SUB)	(+)	Control variable
Market Return	Yu et al. (2005)	(+)	MKTR	(+)	Control variable
	Lv Xiaoyan(2010)	(-)			
Issue cost Per Share	Xu Xuewen(2008)	(-)	COSTPS	(-)	Control variable
The scale of the public offering	Fu Mengjin(2010) Lv Xiaoyan(2010)	(+)	ln(Proceeds)	(-)	Control variable
	Chi and Padgett(2005, a) Jiang Chengzhong(2008), Feng Meixiu(2009),	(-)			

4.2.2 Model

Based on IPO underpricing theories, the characteristics of Chinese IPOs, and this paper's hypotheses about the effect that firms' voluntary disclosure behavior

has on IPO underpricing in China, a series of multiple linear regression models are developed.

This paper analyzes why Chinese firms do not publish their earnings/sales forecasts after the CRSC changed the earnings/sales forecasts policy from mandatory to voluntary disclosure. The impact of the dummy for earnings/sales forecasts is tested on the IPO underpricing before the CSRC changes to the earnings/sales forecasts policy in Hypothesis 1. It is assumed that the IPO firms will decide whether to disclose earnings/sales forecasts after the policy changes based on the effects of these forecasts on the IPO underpricing.

Models (1) and (2) show the dummy explanatory variables for earnings/sales forecasts. The control variables are adopted from literature reviews. The subscription is measured as the total number of shares acquired by investors on the day of offering. The natural logarithm of this value is used as a control variable. The pre-market return that the cumulative market returns accumulated from 20days before the listing day is used as a control variable. This paper uses the natural logarithm of proceeds as control variables. And the last control variable is issue cost per share which is calculated using Total Issue Cost and the Circulation (Total Issue Cost/ Circulation). We used Ordinary Least Squares Regression and assumed error terms are normally distributed.

$$UPR_i = \beta_0+\beta_1 Earnings\text{-}FORD_i + \beta_2 ln(SUB_i)+ \beta_3 ln(Proceeds_i) + \beta_4 COSTPS_i+ \beta_5 MKTR_i+\varepsilon_i, \quad (1)$$

$$UPR_i = \beta_0+\beta_1 Sales\text{-}FORD_i + \beta_2 ln(SUB_i)+ \beta_3 ln(Proceeds_i) + \beta_4 COSTPS_i+ \beta_5 MKTR_i+\varepsilon_i, \quad (2)$$

Where, $\boldsymbol{UPR_i}$ = (Opening price of the listing day- Offer price)/Offer price of firm i.

$\boldsymbol{Earnings\text{-}FORD_i}$ = Dummy for earnings forecasts. If the firm disclosed the earnings forecasts it will be 1, otherwise 0.

SALES-FORD$_i$ = Dummy for sales forecasts. If the firm disclosed the sales forecasts it will be 1, otherwise 0.

COSTPS$_i$ = Issue cost per share of firm i. (Total issue cost/The number of the issued shares) of firm i.

ln(SUB$_i$) = ln(Subscription ratio) of firm i.

ln(Proceeds$_i$) = ln(Offer price × The number of the issued shares) of firm i.

MKTR$_i$ = Cumulative market return which accumulated from 20days before the listing day of firm$_i$.

ε_i = Error term are normally distributed. $\varepsilon \quad (0, \sigma^2)$

The impact of earnings/sales forecasts on IPO underpricing before the CSRC policy changes are tested. Models (3) and (4) show explanatory variables are earnings/sales forecasts. The control variables are adopted from literature reviews. The subscription is measured as the total number of shares acquired by investors on the day of offering. The natural logarithm of this value is used as a control variable. The pre-market return that the cumulative market returns accumulated from 20days before the listing day is used as a control variable. This paper uses the natural logarithm of proceeds as control variables. And the last control variable is issue cost per share which is calculated using Total Issue Cost and the Circulation (Total Issue Cost/ Circulation). We used Ordinary Least Squares Regression and assumed error terms are normally distributed.

$$UPR_i = \beta_0+\beta_1\text{Earnings-FOR}_i + \beta_2 ln(SUB_i)+ \beta_3 ln(Proceeds_i) + \beta_4 COSTPS_i+ \beta_5 MKTR_i+\varepsilon_i, \quad (3)$$

$$UPR_i = \beta_0+\beta_1\text{Sales-FOR}_i + \beta_2 ln(SUB_i)+ \beta_3 ln(Proceeds_i) + \beta_4 COSTPS_i+ \beta_5 MKTR_i+\varepsilon_i, \quad (4)$$

Where, ***UPR$_i$*** = (Opening price of the listing day- Offer price)/Offer price of firm i.

Earnings-FOR$_i$ = ln(Net earnings forecasts) of firm i.

Sales-FOR$_i$ = ln(total sales forecasts) of firm i.

COSTPS$_i$ = Issue cost per share of firm i. (Total issue cost/The number of the issued shares) of firm i.

ln(SUB$_i$) = ln(Subscription ratio) of firm i.

ln(Proceeds$_i$) = ln(Offer price × The number of the issued shares) of firm i.

MKTR$_i$ = Cumulative market return which accumulated from 20days before the listing day of firm$_i$.

ε_i = Error term are normally distributed. $\varepsilon \quad (0, \sigma^2)$

5. Data Description

This paper uses data from Chinese firms that issued and listed their shares in either the Shanghai Stock Exchange or the Shenzhen Stock Exchanges from January 13, 1992 to November 2, 2012. The sample firms are collected according to the criterion as follows:

1) Data are collected from the Beijing RESSET database from January 13, 1992 to November 2, 2012.

2) Firms with no financial data for the year before they went public or did not have complete data on the variables in this paper were excluded.

The total number of observations, the sum of sample firms over the period, is 2,457. Table 3-1 shows the number of sample firms by year and the disclosure situation of the sample firms' earnings forecast information by year.

The paper found that 94.23% firms decided not to disclose earnings forecast information after 2001.

Table 3-2 above shows the disclosure situation of the sample firms' earnings forecast information by year before and after the disclosure policy changes were published on March 15,2001. Under the mandatory disclosure regulation, 92.02% IPO firms disclosed earnings forecast information in their prospectus, as required. Among this, 86.13% IPO firms disclosed both the earnings/sales forecast information, 4.99% IPO firms disclosed only earnings forecast information and

0.9% IPO firms disclosed only sales forecasts. Under the mandatory disclosure regulation, only 7.98% IPO firms did not disclose their earnings forecast information. Among these firms, some were before April 22,1993, before detailed regulation was enacted. On this date, the State Council issued "the provisional regulation of stock issue and trade" as the first normal requirement and the law covering earnings forecast information disclosure. Otherwise, some of these firms were in a special history period or have a special purpose (such as the earliest listed firms), and so did not disclose earnings forecast information under the mandatory regulation.

<Table 3-1> The Number of Sample Firms by Year and the Disclosure Situation of the Sample Firms' Earnings/Sales Forecasts Information by Year

Year	Number Of IPO firms	Number Of IPO firms disclose sales forecasts information	Number Of IPO firms disclose earnings forecasts information	Proportion Disclose only sales forecasts (%)	Proportion Disclose only earnings forecasts (%)	Proportion Disclose both of the forecasts (%)	Proportion Disclose neither of the forecasts (%)
1992	34	19	25	2.94%	20.59%	52.94%	23.53%
1993	106	72	88	0.94%	16.04%	66.98%	16.04%
1994	108	75	87	2.78%	13.89%	66.67%	16.67%
1995	20	16	20	0.00%	20.00%	80.00%	0.00%
1996	176	164	168	1.14%	3.41%	92.05%	3.41%
1997	196	182	180	1.02%	0.00%	91.84%	7.14%
1998	98	96	96	0.00%	0.00%	97.96%	2.04%
1999	98	97	98	0.00%	1.02%	98.98%	0.00%
2000	137	131	131	0.00%	0.00%	95.62%	4.38%
2001	77	52	51	1.30%	0.00%	66.23%	32.47%
2002	71	21	21	0.00%	0.00%	29.58%	70.42%
2003	67	1	2	0.00%	1.49%	1.49%	97.01%

2004	100	1	1	0.00%	0.00%	1.00%	99.00%
2005	15	0	0	0.00%	0.00%	0.00%	100.00%
2006	66	5	9	0.00%	6.06%	7.58%	86.36%
2007	126	4	5	0.00%	0.79%	3.17%	96.03%
2008	77	5	6	0.00%	1.30%	6.49%	92.21%
2009	99	4	4	0.00%	0.00%	4.04%	95.96%
2010	349	0	1	0.00%	0.29%	0.00%	99.71%
2011	282	1	1	0.00%	0.00%	0.35%	99.65%
2012	155	2	2	0.00%	0.00%	1.29%	98.71%
Total	2457	948	996	0.41%	2.36%	38.18%	59.06%

<Table 3-2> The Disclosure Situation of the Sample Firms' Earnings Forecasts Information by Year before and after the disclosure policy changes were published on March 15th2001

Year	Number Of IPO firms	Number Of IPO firms disclose sales forecasts information	Number Of IPO firms disclose earnings forecasts information	Proportion Disclose only sales forecasts (%)	Proportion Disclose only earnings forecasts (%)	Proportion Disclose both of the forecasts (%)	Proportion Disclose neither of the forecasts (%)
Before March 15th2001	1002	872	913	0.90%	4.99%	86.13%	7.98%
After March 15th2001	1455	76	83	0.07%	0.55%	5.15%	94.23%
Total	2457	948	996	0.41%	2.36%	38.18%	59.06%

The Figure 1 below shows the disclosure situation of the sample firms' earnings forecast information clearly by year. Most of the sample firms disclose their earnings forecasts until 2000. Most sample firms decided not to disclose earnings

forecast information after 2001. There is a significant decrease in the number of IPO firms disclosing sales forecasts and earnings forecasts in 2001 compared to 2000,and only a few sample firms chose to disclose earnings forecasts from 2003 to 2012.

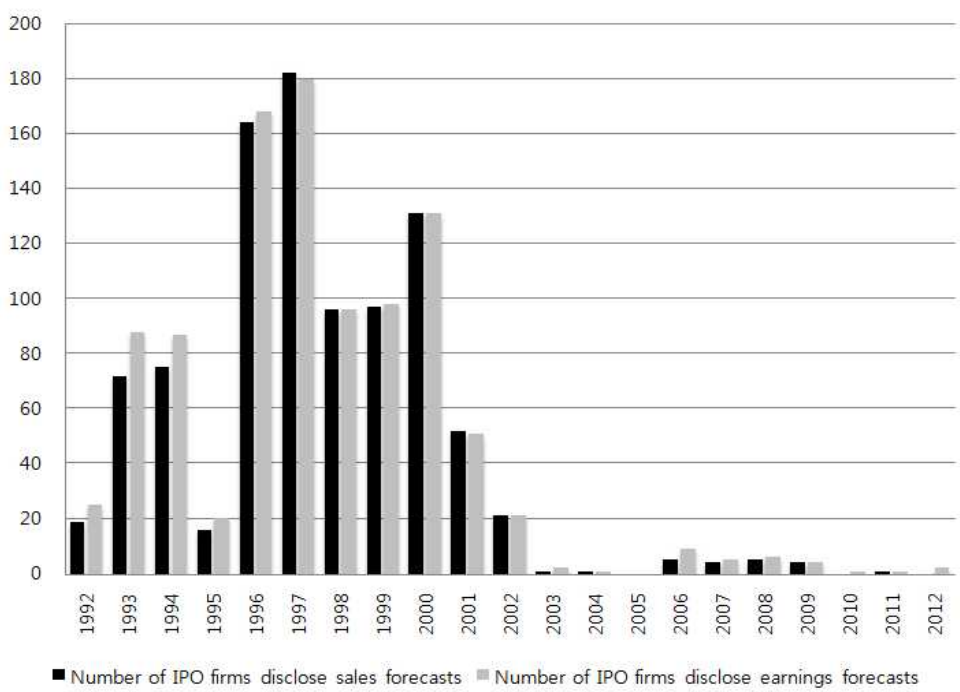
6. Empirical Results

6.1 Basic Statistics

Table 4 shows the sample firms' characteristics. The descriptive statistics separated into panel A and panel B by March 15,2001, the date when the CSRC changed the earnings forecast disclosure policy from mandatory to voluntary. Panel A of Table 4 presents summary statistics of the sample data from 1992 to March 15,2001. The mean and median of the dependent variable, underpricing ratio, measured by [(opening price of the listing day- offer price)/offer price] are 1.585 and 1.195, respectively, for Chinese IPOs in this date range. The mean and median of the dummy earnings forecast, one of the explanatory variables, are 0.911 and 1.000, respectively. The earnings forecast as measured by the natural logarithm of net earnings forecast is about 17.627 on average. Moreover, the median of ln(earnings forecasts) is 17.582. Additionally, the mean and median of the dummy sales forecasts are 0.870 and 1.000, respectively. The sales forecasts as measured by the natural logarithm of total sales forecasts are about 19.709 on average. The median of ln(sales forecasts) is 19.704. The subscription ratio (SUB) measured by the natural logarithm of the subscription ratio is about 5.099 times on average. The scale of the public offering measured by the natural logarithm of (offer price × the number of the issued shares) is about 19.034 on average, and its median is 19.118.The ratio of total issue cost to the circulation (COSTPS) is about 0.242 on average, and the median is 0.220.The cumulative market returns (MKTR) accumulated from 20days before the listing day is about 0.029 on average, and the median is 0.022.

Panel B of Table 4 presents summary statistics of sample data from March 15,2001, to 2012. The mean and median of the dependent variable, underpricing ratio, are 0.685 and 0.430, respectively for Chinese IPOs in this date range. The mean and median of the dummy earnings forecast, one of the explanatory variables, are 0.057 and 0.000, respectively. The ln(earnings forecasts) is about 18.578 on average. The median of ln(earnings forecasts) is 17.900. Additionally, the mean and median of the dummy sales forecasts are 0.052 and 0.000, respectively. The ln(sales forecasts) is about 20.514 on average. The median of ln(sales forecasts) is 20.125. The subscription ratio (SUB) is about 5.189 times on average. The scale of the public offering is about 20.226 on average, and its median is 20.082.The ratio of total issue cost to the circulation (COSTPS) is about 1.235 on average, and the median is 1.000.The cumulative market returns (MKTR) is about -0.002 on average, and the median is –0.004.

<Figure 1> Number of IPO Firms Disclose Sales Forecasts and Earnings Forecasts



Dependent Variable: UPR underpricing ratio:(Opening Price of the listing Day- Offer Price)/Offer Price. **Explanatory Variables: Earnings-FORD:** Dummy for net earnings forecasts. If the firm disclosed the net earnings forecasts it will be 1, otherwise 0. **Earnings-FOR:** ln(Net earnings forecasts)，natural Logarithm of net earnings forecasts. **Sales-FORD:** Dummy for Sales forecasts. If the firm disclosed the total sales forecasts it will be 1, otherwise 0. **Sales-FOR**: ln(total sales forecasts). **Control Variables:ln(SUB):** Natural Logarithm of The Subscription Ratio. ln(Subscription Ratio) (1/ the success rate of online distribution). **ln(Proceeds):** The scale of the public offering. ln(Offer Price × The Number of The Issued Shares). **COSTPS:** issue cost Per Share. (Total Issue Cost/The Circulation). **MKTR:** Market Return. The cumulative market returns which accumulated from 20days before the listing day.

Variables	Observations	Mean	Median	Stand. Dev	Min Value	Max Value
Panel A: Before March 15th2001						
UPR	1,002	1.585	1.195	2.377	-0.992	36.580
Earnings-FORD	1,002	0.911	1.000	0.285	0.000	1.000
Earnings-FOR	913	17.627	17.582	1.120	7.768	23.727
Sales-FORD	1,002	0.870	1.000	0.336	0.000	1.000
Sales-FOR	872	19.709	19.704	1.318	9.630	25.524
ln(SUB)	586	5.099	5.275	1.070	0.047	9.385
ln(Proceeds)	1,001	19.034	19.118	1.086	12.737	22.783
COSTPS(¥)	696	0.242	0.220	0.255	0.000	6.580
MKTR	1,002	0.029	0.022	0.145	-0.446	1.312
Panel B: After March 15th2001						
UPR	1,455	0.685	0.430	1.431	-0.243	45.000
Earnings-FORD	1,455	0.057	0.000	0.232	0.000	1.000
Earnings-FOR	83	18.578	17.900	1.982	16.418	25.141
Sales-FORD	1,455	0.052	0.000	0.223	0.000	1.000
Sales-FOR	76	20.514	20.125	1.680	18.221	26.502
ln(SUB)	1,218	5.189	5.094	1.185	0.423	8.953
ln(Proceeds)	1,450	20.226	20.082	0.950	17.471	24.951
COSTPS(¥)	1,445	1.235	1.000	0.983	0.033	7.700
MKTR	1,352	-0.002	-0.004	0.079	-0.281	0.269

6.2 Mean Comparison Test and Correlation Analysis

Table 5 shows the comparison of the sample data before and after the disclosure policy changes. From the t-tests using unequal variances between groups, the dependent variable underpricing (UPR), dummy for earnings forecasts (Earnings-FORD), dummy for sales forecasts (Sales-FORD), and market return(MKTR) are significantly higher before the earnings forecasts policy changes than after. The Earnings-FOR ln(Net earnings forecasts), Sales-FOR ln(total sales forecasts), ln(SUB) subscription ratio, the scale of public offering ln(Proceeds), and cost per share(COSTPS) are significantly smaller than after the earnings forecasts policy changed from mandatory to voluntary disclosure.

The Pearson correlations coefficients among the variables are provided in Table 6. Firstly, there are correlations between the dependent variable and the other variables to discuss. The natural logarithm of net earnings forecasts[Earnings-FOR], the natural logarithm of total sales forecasts[Sales-FOR], the ratio of total issue cost to the circulation(COSTPS), and the scale of the public offering [ln(Proceeds)] measured by the natural logarithm are negatively and significantly correlated with the dependent variable underpricing(UPR) at the 1% level, while the subscription ratio(SUB) and the cumulative market return accumulated from 20 days before the listing day(MKTR) are positively and significantly correlated with the dependent variable underpricing (UPR) at the 1% level.

Secondly, there are correlations among independent variables to cover. Among the independent variables, the significant or insignificant coefficients are mixed. Among the explanatory variables, the natural logarithm of net earnings forecasts [Earnings-FOR] is negatively and significantly correlated with the subscription ratio(SUB) at the 1% level; while is positively and significantly correlated with the natural logarithm of total sales forecasts[Sales-FOR] and the scale of the public offering [ln(Proceeds)] at the 1% level. The natural logarithm of the total sales forecasts [ln (Sales-FOR)] is positively and significantly correlated with the

scale of the public offering [ln(Proceeds)] at the 1% level, while it is negatively and significantly correlated with the ratio of total issue cost to the circulation (COSTPS) at the 10% level and with the subscription ratio(SUB) at the 1% level. The subscription ratio(SUB) has a negative and significant relation with the ratio of total issue cost to the circulation (COSTPS) and cumulative market return accumulated from 20 days before the listing day(MKTR) at the 1% level. The scale of the public offering [ln(Proceeds)] has a positive relation with the ratio of total issue cost to the circulation (COSTPS) at the 1% level and a negative relation with cumulative market return accumulated from 20 days before the listing day(MKTR) at the 1% level. Finally, the ratio of total issue cost to the circulation (COSTPS) has a negative and significant relation with cumulative market return accumulated from 20 days before the listing day(MKTR) at the 1% level.

Some statistically significant correlations among independent variables require caution in multivariate regressions with respect to multicollinearity problems.

Policy was changed from Mandatory to Voluntary Disclosure on March 15th2001

Dependent Variable: UPR underpricing ratio.(Opening Price of the listing Day- Offer Price)/Offer Price. **Explanatory Variables: Earnings-FORD:** Dummy for net earnings forecasts. If the firm disclosed the net earnings forecasts it will be 1, otherwise 0. **Earnings-FOR:** ln(Net earnings forecasts)，natural Logarithm of net earnings forecasts. **Sales-FORD:** Dummy for Sales forecasts. If the firm disclosed the total sales forecasts it will be 1, otherwise 0. **Sales-FOR**: ln(total sales forecasts). **Control Variables: SUB, ln(SUB):** Natural Logarithm of The Subscription Ratio. ln(Subscription Ratio) (1/ the success rate of online distribution). **ln(Proceeds):** The scale of the public offering. ln(Offer Price × The Number of The Issued Shares). **COSTPS:** issue cost Per Share. (Total Issue Cost/The Circulation). **MKTR:** Market Return. The cumulative market returns which accumulated from 20days before the listing day.

Variables	Before March 15th2001	After March 15th2001	Difference	t stat
UPR	1.585	0.685	0.900	11.693***
Earnings-FORD	0.911	0.057	0.854	81.663***
Earnings-FOR	17.627	18.578	-0.951	-6.827***
Sales-FORD	0.870	0.052	0.818	72.557***
Sales-FOR	19.709	20.514	-0.805	-4.988***
ln(SUB)	5.099	5.189	-0.090	-1.563
ln(Proceeds)	19.034	20.226	-1.192	-28.773***
COSTPS	0.242	1.235	-0.993	-26.219***
MKTR	0.029	-0.002	0.031	6.653***

Note) ***, **, *: The means statistically differ at 1%, 5%, 10% level in two sided tests, respectively

Dependent Variable: UPR underpricing ratio.(Opening Price of the listing Day- Offer Price)/Offer Price. **Explanatory Variables: Earnings-FORD:** Dummy for net earnings forecasts. If the firm disclosed the net earnings forecasts it will be 1, otherwise 0. **Earnings-FOR:** ln(Net earnings forecasts)，natural Logarithm of net earnings forecasts. **Sales-FORD:** Dummy for Sales forecasts. If the firm disclosed the total sales forecasts it will be 1, otherwise 0. **Sales-FOR**: ln(total sales forecasts). **Control Variables: ln(SUB):** Natural Logarithm of The Subscription Ratio. ln(Subscription Ratio) (1/ the success rate of online distribution). **ln(Proceeds):** The scale of the public offering. ln(Offer Price × The Number of The Issued Shares). **COSTPS:** issue cost Per Share. (Total Issue Cost/The Circulation). **MKTR:** Market Return. The cumulative market returns which accumulated from 20days before the listing day.

Variables	UPR	Earnings-FOR	Sales-FOR	ln(SUB)	ln(Proceeds)	COSTPS	MKTR
UPR	1.000						
Earnings-FOR	-0.141***	1.000					
Sales-FOR	-0.120***	0.757***	1.000				
ln(SUB)	0.517***	-0.285***	-0.201***	1.000			
ln(Proceeds)	-0.390***	0.611***	0.472***	-0.341***	1.000		
COSTPS	-0.403***	-0.058	-0.067*	-0.234***	0.224***	1.000	
MKTR	0.141***	-0.005	0.013	0.013	-0.107***	-0.107***	1.000

Note) ***, **, *: The means statistically differ at 1%, 5%, 10% level in two sided tests, respectively

6.3 Regression Analysis

6.3.1 The Effects of Earnings/Sales Forecasts Disclosure on the IPO Underpricing Ratio

The effects of earnings/sales forecasts on IPO underpricing, measured with the underpricing ratio (UPR),are analyzed using multivariate regression, first using multivariate regression models 1 and 2. The effects of earnings/sales forecast disclosures on the IPO underpricing ratio were separated according to the date the

disclosure policy changed. This section tests the effects of the disclosure of earnings/sales forecasts on the IPO underpricing ratio before the CSRC changed the forecasts policy from mandatory to voluntary disclosure. Table 7 shows the results of the effects of the dummy for earnings/sales forecasts on the IPO underpricing ratio. The dummy for earnings forecasts in model 1 is significantly negative with respect to the IPO underpricing ratio at the 10% level, but the dummy for sales forecasts is insignificantly negative with respect tothe IPO underpricing ratio in model 2. Some additional research is required to test the reasons behind the insignificant results. The subscription ratio (SUB) and cumulative market return (MKTR) are significantly positive with the respect to underpricing ratio (UPR) at the 1% level. The scale of the public offering(Proceeds) is significantly negative with respect to the underpricing ratio (UPR) at the 1% level, and the ratio of total issue cost to the circulation (COSTPS) has statistically significant correlation with the IPO underpricing ratio.

In other words, the dummy for earnings forecasts has a negative effect on the IPO underpricing ratio. Thus, the IPO underpricing ratio is lower for IPO firms that disclosed earnings forecasts than for those that didnot. While the dummy for sales forecasts did not return significant results, it also didnot show a significant positive effect on the IPO underpricing ratio. This still supports the hypothesis, the same as hypothesis 1, if the underpricing ratio is low; it is not conductive to attracting primary investors while the CSRC prices IPOs rather than the IPO firms themselves. Therefore, after the CSRC changed its earnings forecasts policy on March 15,2001, most IPO firms decided not to disclose the earnings/sales forecasts.

Second, the effects of earnings/sales forecasts on IPO underpricing, measured with underpricing ratio (UPR) were analyzed using multivariate regression models 3 and 4. Table 7 shows the results from these two regression models.

The coefficients of the regressions on explanatory variables in models 3 and 4 are significantly negative at the 1% level for the natural logarithm of net earnings forecasts ln[Earnings-FOR] and the natural logarithm of the total sales forecasts [ln (Sales-FOR)]. On the contrary,the control variables in models 3 and 4 for the subscription ratio (SUB) and cumulative market return (MKTR) are significantly positive with respect to the underpricing ratio(UPR) at the 1% level.

In other words, the disclosed earnings/sales forecasts have a negative effect on the IPO underpricing ratio: the more the IPO firms disclosed earnings/sales forecasts, the lower the underpricing ratio. This is not conductive to attracting primary investors during the IPO when the CSRC prices IPOs while the firm has no pricing rights. After the CSRC changed the policy form mandatory to voluntary disclosure, most IPO firms decided not to disclose earnings/sales forecasts.

The results are consistent with the asymmetric information hypothesis, which states that the voluntary earnings forecasts publishing system can be used to understand the published information. So if earnings forecasts have information content, it will reduce the degree of information asymmetry when other information is equal, thereby influencing the IPO price.

<Table 7> The Effects of Earnings/Sales Forecasts Disclosure on the IPO Underpricing Ratio

Dependent Variable: UPR underpricing ratio.(Opening Price of the listing Day- Offer Price)/Offer Price. **Explanatory Variables: Earnings-FORD:** Dummy for net earnings forecasts before March 15th 2001. If the firm disclosed the net earnings forecasts it will be 1, otherwise 0. **Sales-FORD:** Dummy for Sales forecasts before March 15th 2001. If the firm disclosed the total sales forecasts it will be 1, otherwise 0. **Earnings-FOR:** ln(Net earnings forecasts), natural Logarithm of net earnings forecasts. **Sales-FOR:** ln(total sales forecasts). **Control Variables: ln(SUB):** Natural Logarithm of The Subscription Ratio. ln(Subscription Ratio) (1/ the success rate of online distribution). **ln(Proceeds):** The scale of the public offering. ln(Offer Price × The Number of The Issued Shares). **COSTPS:** issue cost Per Share. (Total Issue Cost/The Circulation). **MKTR:** Market Return. The cumulative market returns which accumulated from 20days before the listing day.

Category	Model(1)	Model(2)	Model(3)	Model(4)
Variables	**Coefficient (t Value)**	**Coefficient (t Value)**	**Coefficient (t Value)**	**Coefficient (t Value)**
Earnings-FORD	-0.215* (-1.86)			
Sales-FORD		-0.137 (-1.23)		
Earnings-FOR			-0.208*** (-6.41)	
Sales-FOR				-0.289*** (-5.97)
ln(SUB)	0.300*** (11.94)	0.302*** (12.03)	0.252*** (9.75)	0.254*** (8.71)
ln(Proceeds)	-0.193*** (-5.21)	-0.189*** (-5.17)	-0.118*** (-3.26)	-0.164*** (-4.42)
COSTPS	0.015 (0.28)	0.015 (0.28)	-0.002 (-0.04)	-0.001 (-0.03)
MKTR	1.347*** (4.48)	1.312*** (4.35)	1.271*** (4.45)	1.326*** (4.17)
Constant	3.625*** (4.67)	3.461*** (4.58)	3.587*** (5.53)	5.640*** (5.43)
Observations (n)	590	590	576	568
R^2	0.3025	0.2991	0.3127	0.3085
F-stat	46.64***	46.45***	47.87***	45.96***

Note) ***, ** and * denote the statistics are statistically significant at 1%, 5%, 10% level in two sided tests, respectively.

6.3.2 The Effects of Earnings/Sales Forecasts Disclosure on the IPO Underpricing Ratio (include all the sample data)

This section analyzed the effects of earnings/sales forecast disclosures on the IPO underpricing ratio using all sample data from 1992 to 2012. Table 8 shows the results of the effects of the dummy for earnings/sales forecasts on the IPO underpricing ratio. The dummy for earnings/sales forecasts are significantly positive with respect to the underpricing ratio (UPR) at the 1% level. The subscription ratio (SUB) and cumulative market return (MKTR) are also significantly positive with respect to the underpricing ratio (UPR) at the 1% level. On the contrary, the scale of the public offering(Proceeds) and the ratio of total issue cost to the circulation (COSTPS) are significantly negative with respect to the underpricing ratio (UPR) at the 1% level.

The results show that the IPO underpricing ratio for the IPO firms that disclosed earnings forecasts is higher than for those that didnot disclose earnings forecasts when using all sample data. Therefore, this is conductive to attracting primary investors. At this point,it seems that the IPO firms should decide to disclose earnings/sales forecasts. However, after the CSRC issued several IPOs after the trial implementation of the price inquiry system in 2004, there were various pricing methods, and not simply based on the PE ratio. In addition, the IPO firms own the pricing rights, leading to the concern that an excessive IPO underpricing ratio will affect efficiency when raising capital. The government should encourage IPO firms to modify the pricing properly and to disclose their earnings/sales forecasts correctly, legitimately, and regularly.

Ratio include all Sample Data

Dependent Variable: UPR underpricing ratio.(Opening Price of the listing Day-Offer Price)/Offer Price. **Explanatory Variables: Earnings-FORD:** Dummy for net earnings forecasts. If the firm disclosed the net earnings forecasts it will be 1, otherwise 0. **Sales-FORD:** Dummy for Sales forecasts. If the firm disclosed the total sales forecasts it will be 1, otherwise 0. **Control Variables: ln(SUB):** Natural Logarithm of The Subscription Ratio. ln(Subscription Ratio) (1/ the success rate of online distribution). **ln(Proceeds):** The scale of the public offering. ln(Offer Price × The Number of The Issued Shares). **COSTPS:** issue cost Per Share. (Total Issue Cost/The Circulation). **MKTR:** Market Return. The cumulative market returns which accumulated from 20days before the listing day.

Variables	Coefficient (t Value)	Coefficient (t Value)
Earnings-FORD	0.310*** (7.13)	
Sales-FORD		0.324*** (7.52)
ln(SUB)	0.285*** (18.41)	0.286*** (18.55)
ln(Proceeds)	-0.131*** (-7.20)	-0.126*** (-6.92)
COSTPS	-0.127*** (-7.11)	-0.125*** (-7.13)
MKTR	2.123*** (9.62)	2.147*** (9.80)
Constant	1.974*** (4.78)	1.867*** (4.53)
Observations (N)	1,658	1,658
R^2	0.4857	0.4875
F-stat	254.18***	256.14***

Note) ***, ** and * denote the statistics are statistically significant at 1%, 5%, 10% level in two sided tests, respectively.

7. Conclusion

This paper examined the IPO underpricing phenomena for Chinese firms listed on the exchange between 1992 and 2012. The effects the IPO firms' voluntary disclosure behavior on the IPO underpricing degree for firms listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange were the focus.

First, before the CSRC changed the earnings forecasts policy form mandatory to voluntary disclosure, the disclosure of earnings/sales forecasts affected the underpricing ratio negatively. The IPO underpricing ratio for the IPO firms that did not disclose earnings/sales forecasts was higher than for those that disclosed earnings/sales forecasts. After the policy changed, most IPO firms chose not to disclose the earnings/sales forecasts in order to raise the underpricing ratio to attract primary or institutional investors.

Second, the disclosed earnings/sales forecasts affected the underpricing ratio negatively. The higher disclosed earnings/sales forecasts did not raise the underpricing ratio, indicating thatinvestors did not use the earnings/sales forecasts as a reference. Therefore, IPO firms did not need to disclose earnings/sales forecast information. After the CSRC changed the earnings forecasts policy form mandatory to voluntary disclosure, most IPO firms decided not to disclose this information.

Third, from 1992 to 2012, the disclosure of earnings/sales forecasts positively affected the underpricing ratio. In other words, the IPO underpricing ratio for the firms that disclosed earnings/sales forecasts was higher than for those that did not disclose earnings forecasts from 1992 to 2012. Most IPO firms decided not to disclose their earnings/sales forecasts in order to attract primary or institutional investors by raising the underpricing ratio. The results show that the underpricing

ratio for the IPO firms that decided not to disclose earnings/sales forecasts was not increased but rather decreased.

In conclusion, the results indicate that disclosing the earnings/sales forecasts influenced the underpricing ratio significantly, were conductive to attracting primary investors, and influences secondary investors' choices. However, the precondition is that the IPO firms should publish the earnings/sales forecast information integrally, reliably, timely, and accurately. Through comparing the disclosure situation of the sample firms' earnings/sales forecast information by year before and after the disclosure policy changed from mandatory to voluntary on March 15,2001, this paper found that the Chinese capital market has been insisting on a path of gradual market-oriented reform. The results also indicate that the Chinese capital market efficiency in the allocation of resources has yet to be improved. The Chinese capital market should be encouraged toward a healthy and stable development. The Chinese government should encourage the IPO firms to publish their earnings/sales forecasts voluntarily, accurately, and in a timely manner while also creating regulations on voluntary earnings/sales forecasts disclosure to improve the current situation.

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