Book chapter

Market-Oriented Reform of China's IPO System and Information Disclosure Regulations

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Chapter 2. Market-oriented Reform of China's IPO System and Information Disclosure Regulations

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Reform of the issuance system of new shares is at the core of China's stock market development. The reform can enhance issuance efficiency, strengthen price discovery for stocks, optimize resource allocation and is of great significance for the sound development and further improvement of the stock market. China's IPO system, plagued with inherent flaws, has always been controversial; but it keeps evolving and improving. This chapter discusses reform and evolution of China's IPO system from three perspectives: The regulatory system, issuance procedures, and pricing methods. Based on discussion and analyses, it concludes that China's IPO system should graduate from an administrative approach to a market and law-based one. This is based on both theoretical logic and market realities. This chapter also conducts case studies of China's IPO practice, and 1,351 listed company that have undertaken IPOs between 1992 and 2007 are used as samples to discuss how market-oriented reform of the IPO system influences pricing efficiency. According to the case studies, China's IPO system reform has given underwriters more choices and more pricing power, thus curbing excessive underpricing and enhancing the long-term performance of IPO companies. This chapter also points out that the most prominent problem during issuance of new shares is information disclosure noncompliance. Taking Yunnan Greenland Biological Technology Co., LTD and Wanfu Biotechnology as examples, this chapter analyzes problems in China's IPO information disclosure regulatory system. Particular problems include light penalties for listing fraud, absence of a civil compensation mechanism, an exit mechanism with no actual functions, and so on. Suggestions are put forward accordingly: Strengthening punishments for securities frauds, improving judicial procedures for civil compensation in listing fraud, prioritizing civil compensation, and introducing a compulsory suspension system to clear fraudulent companies out of the market. All studies and research done have proved that China's IPO system reform should be conducted in a well-phased and gradual manner, and that the registration system should be put in place at the right time, so that China's IPO system can work in line with those in developed market economies.

2.1 The journey of market-oriented reform of the IPO system

2.1.1 Evolution of China's IPO regulatory system

The development of China's IPO regulatory system has traversed three phases: An Administrative Review and Approval System with quota management at its core; an approval system based on the

Channel System; and an approval system based on a sponsor system. Brief introductions to these systems and their features will aid in understanding the evolution of China's IPO regulatory system.

2.1.1.1 Administrative Review and Approval System centered upon quota management

From 1990 to 2001, China's securities market was just restored and IPOs were regulated by the Administrative Review and Approval System (Quota Approval System) where stock issuance was reviewed and approved by administrative authorities. There were three steps of review and approval:

(1) Quota allocation

Securities authorities determine the aggregate issuance volume according to the overall national economic development planning and industrial policies, and then distribute the quota to government departments and provinces. These departments and provinces distribute their quota to companies.

(2) Pre-selection

After the issuance quota or the number of issuers is determined, local governments or government departments select companies that have filed applications to be pre-selected companies and report to the China Securities Regulatory Commission (CSRC) for review and approval.

(3) Approval of issuance

To be approved, companies must go through preliminary examination and review. First, the staff at the Department of Public Offering (under the CSRC) conduct a preliminary examination of recommended issuers; reviews are in the charge of the Public Offering Review Committee set up by the CSRC.

Quota management was implemented from 1993 to 1995. It worked like this: The securities authority under the State Council determines in advance the total quota, and then distributes it to provinces and industries according to their needs. Provinces then select stock issuers within the limited quota. During this period, the accumulated quota of share issuance reached 10.5 billion shares. There were two quota allocations: 5 billion in 1993 and 5.5 billion in 1995. Two hundred companies issued shares, raising more than CNY40 billion. From 1996 to 2000, target management was put in place. Under this regulation, the aggregate issuance is controlled and the number of issuers is limited. The securities authority under the State Council determines the number of companies to be listed during a certain period of time, and sets targets for provincial governments and industrial management departments, who then recommend pre-selected companies to the securities authority. Qualified pre-selected companies then have to submit official applications for share issuance to the securities authority for review and approval. In 1996 and 1997, 15 and 30 billion shares were issued, respectively. More than 700 companies issued their stock, raising more than CNY400 billion. On 1 July 1999, the Securities Law took effect. According to the Securities Law, 'the securities authority under State Council is in charge of approving applications for stock issuance according to legal conditions'. The Approval System was thus introduced. Though issuance targets were no longer determined, the targets set in 1997 were effective till 2001.

The characteristics of the Administrative Review and Approval System are as follows:

(1) Quota management

The total stock issuance quota across the country is first determined by the CSRC and State Planning Commission, and then distributed to local governments and central departments. It is noteworthy that the issuance quota is calculated based on par value. Thus, when shares are issued at a premium, the amount of funding raised outstrips the quota by a large margin.

(2) Two levels of review and approval

Issuers submit quota applications to the local governments or central departments in charge. After approval by this first level, applications are then submitted to the CSRC for review and approval.

(3) Incremental offering

Only newly-issued public shares can access secondary market circulation.

Limitations of the Administrative Review and Approval System are also distinct. First, the system reflects the mentality of a planned economy and runs counter to market logic. As a result, financing opportunities for strong companies are impaired, and the prosperity of the securities market is constricted. Second, the system is overly dependent on administrative procedures. Third, the review and approval procedures are not open and transparent enough, making it easy for backroom deals, rent-seeking and rent-setting. The role of the market in adjusting resource allocation is not given full play. In particular, the listing of many inferior companies seriously harms investor interests.

As rational economic actors, underwriters aim to maximize their own interests. Under the Administrative Review and Approval System, they are not subject to accountability and are immune from punishments related to the poor quality of listed companies, so a wrong signal is given to underwriters that they only need to do their best to help companies acquire issuance quotas and complete listing. There is not enough attention paid to the quality of issuers. Without incentives and disincentives, underwriter credibility plays little role in the system.

2.1.1.2 Approval System based on the Channel System

When drawbacks to the Administrative Review and Approval System were found, China reformed the IPO system. In March 2001, the Channel and Approval System replaced the Administrative Review and Approval System. The Channel and Approval System was adopted to correct speculative behaviors on the part of underwriters and to guide them to pay more attention to quality instead of quantity.

After the implementation of the Approval System, the CSRC is still the legally authorized approval authority for issuance of new shares. But part of the approval authority has been shifted to underwriters. For example, underwriters are empowered to decide issuance volume, issuance method and issue price (which used to be an exclusive responsibility of the CSRC). In addition, companies applying for an IPO must be tutored and trained by intermediaries for a year.

Under the Approval System, as long as companies meet the requirements stipulated by the *Securities Law* and the *Company Law*, no approval from local governments is needed. But issuers are obliged to disclose information; securities authorities have the power to veto stock issuance applications that do not meet certain requirements. The Channel System is an implementation method of the Approval System: The CSRC grants underwriters a certain amount of shares to be issued (the number of channels) every year. The number of channels – ranging from two to eight – depends on the size of underwriters. The CSRC evaluates the quality of underwriters' work every year to determine whether to suspend or reduce the channels they hold.

The Channel and Approval System has made improvements on the former system. First, issuance quotas were canceled. Second, companies have to conduct shareholding reform and be listed for a year before issuing shares. Third, government approval is replaced by underwriter recommendation. After applications are approved by provincial governments or departments under the State Council, leading underwriters recommend issuers to the CSRC for review and approval. During the process, local governments and the securities authority are no longer involved. Fourth, underwriters are encouraged to supervise the quality of issuers. Only when listed companies meet requirements of quality evaluations set by the CSRC can underwriters sustain their businesses. In this way, underwriters are motivated to improve quality management and intensify their risk controls. Accordingly, the quality of the issuance business has been enhanced.

As the securities market grows and matures, problems in the Approval System have begun to surface. In the first place, the Channel System is, in its nature, a type of quota allocation. Limited numbers of channels hamper the development of the underwriter issuance business. Though the system works well in restraining the financing impulse of companies, it impedes competition within the same industry. The Channel System also grants underwriters a monopoly over channels, so they may engage in improper trading such as asking issuers to bid for channels. Additionally, while the Approval System emphasizes legal liability of underwriters more than the former system, it is still inadequate in this regard: Underwriters are only subject to liabilities during listing recommendation, and they shoulder no guarantee responsibility. All responsibilities terminate after companies are listed. As a consequence, reverse encouragement is delivered, making underwriters more focused on maximizing intrinsic interests and less motivated to supervise issuers.

2.1.1.3 Approval System based on Sponsor System

The *Interim Measures on the Sponsor System for Securities Public Offerings*, released by the CSRC, took effect on February 1st, 2004 – a signal of the establishment of the Sponsor System. The Sponsor System features the following characteristics.

First, a registration management system for sponsors and sponsor representatives is set up. The *Interim Measures on the Sponsor System for Securities Public Offerings* puts forward a 'double sponsor'

requirement for listing: Companies to be listed must be sponsored; professionals bearing sponsor representative certificates must be in charge of the specific sponsor work of companies.

Second, the time limit of sponsoring is specified. There are two aspects of sponsorship: Recommendation and continuous guidance and supervision. The recommendation period starts from the time of the CSRC's acceptance of the company's application documents to completion of the company's listing. For an IPO, the guidance and supervision period refers to the remaining time of the year of listing, and the following two complete accounting years.

Third, sponsor responsibilities are stipulated. Before sponsors and sponsor representatives recommend companies for listing to the CSRC, they tutor and conduct due diligence of issuers. They ensure (or are assured) that documents submitted to the CSRC contain no false records, misleading statements or major omissions. They also ensure the quality of information disclosure, the independence of issuer and its capability for sustained operation in the recommendation documents.

Fourth, credibility supervision and 'cold shoulder' supervision are put in place. According to the *Interim Measures on the Sponsor System for Securities Public Offerings*, illegal practices and foul play by sponsors and sponsor representatives are subject to administrative penalties and held accountable by law. Further, such sponsors and sponsor representatives will be put under 'cold shoulder' supervision: Depending on the seriousness of their case, their recommendation for listing will not be accepted during a certain period of time. In serious cases, their sponsor certificates are revoked. The *Interim Measures on the Sponsor System for Securities Public Offerings* also stipulates that any poor credit history of sponsors and sponsor representatives must be recorded and published.

The Sponsor System has the most direct and notable influence on underwriters. Under the former IPO system, when selecting issuance projects, underwriters prioritized profits and paid little attention to the quality of issuers. As long as listings went well, underwriters could take in handsome profits, and their responsibilities were not commensurate with their gains. However, under the Sponsor System, underwriters have to maintain close connection with listed companies in the following two years after listing. As an important communication bridge between listed companies, exchanges, and the CSRC, underwriters are responsible for identifying information that should be disclosed and urging listed companies to disclose it according to CSRC regulations. Besides, they should make use of their professional expertise to provide listed companies with counseling on investment, wealth management and capital operations. They should also aid companies in improving their corporate governance. If sponsors fail to discharge their duties, they will be subject to a host of administrative penalties or even judicial procedures, such as suspension of their sponsor certificate. Such high stakes greatly restrain and incentivize underwriters.

2.1.2 Evolution of China's IPO procedures

China's IPO procedures have evolved over four phases.

2.1.2.1 Offline issuance

Prior to 1995, all of China's IPOs were undertaken offline through methods such as subscription warrants, savings certificates, or ratio placement.

(1) Issuance through subscription warrants

In the case of issuance through subscription warrants, subscription warrants (or subscription forms) are sold to investors. Then many of these are drawn in a lottery; investors subscribe for shares with subscription warrants that are drawn from this lottery. This method offers limited issuance of subscription warrants, but unlimited issuance of subscription warrants.

Between 1991 and 1992, limited subscription warrants were used in share issuance. The total number of warrants was announced before subscription warrants were sold. Investors could buy a limited number of warrants, after which a lottery determined which warrant codes were permitted to buy shares. Each drawn warrant could buy the stipulated number of shares at the designated price. In August 1992, Shenzhen used this method when issuing stocks for 13 listed companies. At that time, the Shenzhen government announced issuance of five million subscription warrants. Each warrant was sold at CNY100 and each person could buy ten warrants with their identity card. The winning rate was 10 per cent. Due to grave undersupply, investors from across the country rushed to Shenzhen to buy warrants. The selling was poorly organized, and some staff bought warrants in private. The chaos gave rise to the 'August 10th Incident', and this method has not been used since.

In 1993, the State Commission for Restructuring the Economic System rolled out the unlimited issuance of subscription warrants as a way of issuing new shares. Supply was no longer limited and each investor could buy an unlimited number of warrants. Winning rates were calculated by actual sales of warrants and issuance volume of shares. Then lots were drawn to determine chosen warrant codes. Each drawn code could buy a certain number of shares. This method sidestepped major defects of the limited system and embodied the principle of openness, fairness and equality. But as the subscription volume was uncertain, actual subscription costs of many shares outstripped issue price, impacting the secondary market. The costs of unlimited issuance of subscription warrants were determined by the winning rate. Normally, warrants were sold for CNY2 to CNY5 each. Warrants not chosen were also included when calculating costs. Each chosen warrant could buy 200 to 500 shares, and shares were priced at a high premium. Due to strong purchase motivation, winning rates tended to be very low, raising the costs for buying shares.

(2) Issuance through savings certificates

To solve problems related to the unlimited issuance of subscription warrants, the Securities Committee of the State Council promulgated *Measures of Share Issuance and Subscription*, which stipulated that issuances could be pegged to bank savings deposits.

Issuance through savings certificates is a way of issuing shares where savings certificates are issued and a lottery is then used to determine buyers. During the recruitment period, underwriters sell an unlimited number of special time certificates of deposit to investors through designated banks. Then the winning rate is determined based on the number of certificates sold, the approved issuance volume of shares and the number of shares subscribed by each certificate. An open lottery is issued to determine investors. This method can cut extra fees generated by subscription warrants, but deposits have to be made during the process, which demands large amounts of cash flow. Safety risks exist in this method. Issuance through savings certificates falls into two kinds: Special certificates and deposits in full amounts.

(3) Issuance through ratio placement

According to *Opinions on Share Issuance and Subscription*, promulgated by the CSRC on 20 October 1995, share issuance could be pegged to bank savings deposits, and ratio placement was recommended.

Ratio placement is further categorized into two types: Advance payment in full, ratio placement and balance repayment; advance payment in full, ratio placement and balance re-deposit. In case of the former method, during the designated subscription period, investors deposit subscription money in the full amount into special accounts opened by the underwriters in the recipient banks. After subscription, the special accounts are frozen. After verification of this money is received and subscriptions are confirmed valid, a placement ratio is calculated based on the issue volume of shares and subscription volume. Then placement is made, and the balance is returned to investors. The other kind of ratio placement works in the same way, the only difference being that the balance after subscription is re-deposited at the deposit rate of banks in the same period. Such special deposits cannot be deposited or withdrawn in advance.

2.1.2.2 Online bidding issuance

Online bidding issuance takes place through the trading systems of exchanges. A leading underwriter is the sole seller of new shares, and the floor price is the issue bottom price announced by the issuer. Investors bid for subscriptions during the designated period of time. Issuers and leading underwriters determine issue price in line with price priority and make placements. The price unit of subscription is CNY0.1. Each stock account must pay for the subscription in full in advance. From June 1994 to January 1995, four companies – Harbin Shirble Electric-heat Co., Ltd, Qinghai Sanpu Pharmaceutical Limited, Xiahua Electronics Co., Ltd and Qiong Jin Pan (now known as ‘Haima Investment Co., Ltd’) – tried this way. Due to market immaturity, a lack of price discovery capability and poor transparency, new share subscriptions became too speculative – a vivid example of the Greater Fool Theory. In the end, the former three companies sold all their shares at prices respectively 38 per cent, 167 per cent and 141 per cent above their bottom prices. But on the first day of listing, their shares fell below the issue price. Qiong Jin Pan only sold 47.3 per cent of its shares; the rest were underwritten by a leading underwriter. Online bidding issuance has never been used after February 1995.

2.1.2.3 Online pricing issuance

From 1995 to 2001, IPOs in China were primarily undertaken through online pricing issuance. In this case, issuers and underwriters set the issue price beforehand. The leading underwriter – the sole ‘seller’ of new shares – sells shares at the set price through trading systems of exchanges. During the designated period of time, investors make subscriptions in the same way as buying shares on secondary markets. Subscriptions made by each account must be an integral multiple of 1000. Then underwriters draw lots based on issue volume and subscription. Subscriptions made by lottery winners are made active.

Such an issuance procedure is plagued by the following limitations: (1) While the lottery seems fair, like roulette, it depends on luck. (2) As there are limits on subscription for each account, many major and institutional investors managed to open hundreds or even thousands of accounts through the black market (or by buying fake identity cards). As a result, equity is snapped up by people who open accounts illegally. (3) As most subscription funds gain through short-term financing, shares are traded frequently after the initial offering, causing price fluctuations.

2.1.2.4 Online placement plus offline placement

From 1999 till 2014 and onwards, China’s IPOs have been using online issuance and offline placement.

In July 1999, the CSRC released the *Circular on Further Improving Share Issuance Methods* and rolled out a method combining online issuance and placement to legal persons. In August, the *Circular on Placement to Legal Persons* was released by the CSRC, which stated the procedures for legal person placement. Issuers and lead underwriters determine issue volume and bottom issue price beforehand, send inquiries to legal person investors, and finalize issue price according to subscriptions made by the legal person investors. Placement for legal persons and online public offering is of the same price. When issue volume is above 80 million shares, placement to legal person investors must be no more than 50 per cent of total issue volume. When issue volume is more than 200 million shares, the proportion of legal person placement may be increased according to the market situation. When issue volume stands under 80 million shares, this method is not recommended. But if issuers and leading underwriters insist on making offerings this way, a ‘carry-back mechanism’ must be put in place. Under this mechanism, placements to legal persons are determined by the retail investors’ over-subscription multiplier.

To support the fund industry, on 11 August 1998, the CSRC released the *Circular on Issues concerning New Share Placement to Securities Investment Funds*. It stipulated that securities investment funds may apply for new shares placement, and that new shares (of which public offering was over 50 million shares) may make placement to securities. In November 1999, more subscription privileges were granted for funds: New shares for which public offering was no less than 50 million shares must provide no less than 20 per cent of the public offering for fund subscription application. The capital allotment for new share placement of each fund was also increased from 15 per cent to 30 per cent. On 5 April 2000, a circular issued by the CSRC allowed companies whose post-listing equity was below 400 million to place new shares to legal persons. As investors regarded that funds enjoyed privileges

unfairly and that the principles of openness, fairness and equity were violated, in May 2000, the privileges of funds in securing new share placement were abolished.

In February 2000, the CSRC rolled out the *Circular on Issues Concerning New Share Placement to Investors in Secondary Market*. It regulated the practice of new share placement in the secondary market. When issuing stocks, issuers and leading underwriters allot a certain proportion of shares from the online public offering into placement to investors in the secondary market. Investors may subscribe for shares within the subscription limit. The limit is calculated by two variables: The market cap of securities in circulation (based on the closing price of held securities on the trading day before the release of summary prospectus), and the designated conversion coefficient. Securities exchanges allot serial numbers to valid subscriptions – one per thousand shares. Leading underwriters then hold a lottery to select numbers. Securities exchanges then withhold stock capital from the capital accounts of investors whose subscription number wins. If investors fail to subscribe for new shares due to a lack of funds, then it is assumed that said investors renounce their right to subscribe and the shares are underwritten by the leading underwriters.

On 7 September 2004, the CSRC released the *Circular on Issues Concerning the Trial Implementation of an Inquiry System for Initial Public Offerings of Shares*. It stipulated that issuers and their sponsors must place shares to investors that have participated in price inquiries and biddings. The specific procedures were stated as follows: Placement of shares for which the public offering stands below 400 million shares must be no more than 20 per cent of the total issue volume. Placement of shares of which public offering stands at or on 400 million shares must be no more than 50 per cent of the total issue volume.

On 11 September 2006, the *Measures for the Administration of Securities Issuance and Underwriting* released by the CSRC stated for the first time that IPOs may be undertaken through placement to strategic investors, offline placement to inquiry objects (that is special institutional investors) and online issuance. It contained specific regulations. First, IPOs with an issue volume above 400 million shares may make placements to strategic investors, and the investors must hold the shares for at least 12 months as committed. Second, special institutional investors (inquiry objects) and securities investment products managed by them (objects of share placements) may take part in offline placements. Placements of IPOs with an issue volume under 200 million shares must be no more than 20 per cent of the total issue volume. In the case of IPOs with an issue volume of over 400 million shares, placement must be no more than 50 per cent of the remaining issue volume, after placements to strategic investors. Inquiry objects must hold shares through offline placement for at least 3 months as committed. Third, issuers and leading underwriters must make public offerings to public investors in parallel with offline placement. Among shares placed to strategic investors, the amount of shares with no holding time limit must be no less than 25 per cent of all the shares issued at that offering.

According to the *Measures for the Administration of Securities Issuance and Underwriting*, for IPOs above the designated volume, issuers and their leading underwriters must establish a carry-back mechanism between offline placement and online issuance so that the ratio between the two can be adjusted according to subscriptions. For IPOs above 400 million shares, the issuer and its leading underwriter may include an over-allotment option in the issuance scheme.

In May 2012, the CSRC issued *Decisions on Revising Measures for the Administration of Securities Issuance and Underwriting*. This document made some changes, based on the former *Measures*. First, in principle, shares placed to inquiry objects by issuers and underwriters must be no less than 50 per cent of the sum of all new shares in the public offering and old shares transferred. Second, the three-month holding limit for inquiry objects was abolished. Instead, inquiry objects, issuers and underwriters may agree upon the holding limit of shares through online placement on their own. Third, IPOs may establish a carry-back mechanism irrespective of the issue volume. Also, when the offline winning rate is two to four times that of the online winning rate, issuers and underwriters must carry 10 per cent of share placement from offline placement back to online placement (when the offline winning rate is more than four times greater, 20 per cent must be carried back).

2.1.3 Evolution of China's IPO pricing methods

The evolution of China's IPO pricing methods roughly falls into four phases.

2.1.3.1 Price–Earning ratio pricing

Before the *Securities Law* came into effect in 1999, IPO pricing was determined via the price–earning ratio (P/E ratio). The issue price of shares was determined by after-tax profits per share and a comparatively fixed price–earning ratio: Issue price = after-tax profits per share × IPO P/E ratio. The P/E ratio in the equation was determined by the CSRC (it normally ranged between 13 and 20).

Before 1996, the price–earning ratio pricing model was adopted:

$$\text{Issue price of shares} = \text{predicted after-tax profits of the year of issuance} \div \text{total post-listing equity} \times \text{P/E ratio.}$$

Since 1997, in an attempt to regulate the issue price of shares and enhance corporate operational performance, the equation was revised:

$$\text{Issue price of shares} = \frac{\text{the sum of after-tax profits in the three years prior to IPO}}{\text{sum of total equity in the three years prior to IPO}} \times \text{P/E ratio.}$$

A revision was made again in September 1997:

$$\text{After-tax profit per share} = \text{after-tax profit per share in the year prior to issuance} \times 70 \text{ per cent} + \text{predicted after-tax profit per share after dilution} \times 30 \text{ per cent,}$$

$$\text{P/E ratio} = \text{maximum P/E ratio set in the period} - (\text{maximum average closing price of industry-classified listed companies in the 30 days prior to the day of calculation}) \times \text{adjustment coefficient} + \text{correction},$$

$$\text{Coefficient} = (\text{maximum P/E ratio set in the period} - \text{minimum P/E ratio set in the period}) \div (\text{maximum average closing price of industry-classified listed companies in the 30 days prior to the day of calculation} - \text{minimum average closing price of industry-classified listed companies in the 30 days prior to the day of calculation}).$$

The above-mentioned equations used ‘complete dilution’ when determining after-tax profit per share. That is, after-tax profit per share was determined by dividing the total post-listing equity by the total predicted after-tax profits in the year of issuance.

As share issuance generally did not occur on the beginning date of each year, capital received at different times over the year had different influences on corporate performance. In March 1998, IPO pricing started to use a weighted average method to calculate after-tax profit per share. The equation was as follows:

$$\text{Annual after-tax profit per share} = \text{monthly after-tax profit per share after listing} \times 12 \text{ months}$$

and...

$$\text{Monthly after-tax profit per share after listing} = \text{total post-listing after-tax profits of the company} \div \text{remaining months of the year after the month of listing} \div \text{total post-listing equity of the company}.$$

2.1.3.2 Accumulated bidding pricing

It was stipulated by the 1999 *Securities Law* that the issue price of shares is determined by issues and underwriters through consultation. This was a signal that China had made a stride forward towards a market-oriented pricing mechanism in the securities market. The later *Circular on Further Improving Methods of Issuing Shares* specified pricing methods for shares in Article 6: (1) Issuers and leading underwriters may set a range for the issue price and report it to the CSRC for review and approval. (2) The final issue price must be decided after the subscription contracts of placement objects are learned about through promotions such as question-and-answers sessions. (3) The final issue price must be within the price range (including the ceiling and floor price) approved by the CSRC. Otherwise, the final price must be reported to the CSRC again for review and approval. As can be seen from the *Circular*, the issue price of new shares may go beyond the price range, but the margin is not specified. Accumulated bidding was introduced in the market as an innovative way of pricing new share issues. In 2001, the *Guiding Opinions on Price Bidding of Online New Share Placement* rolled out by the CSRC described the accumulated bidding pricing model.

According to the *Guiding Opinions*, the issue price of new shares must be determined by issuers and leading underwriters based on the market situation by the following ways (or other ways in line with requirements).

(1) Subscription multiplier pricing

After subscriptions are made, securities exchanges count subscription volumes cumulatively. When the accumulative volume reaches the deduction proportion – no less than 10 per cent – by issuers and leading underwriters beforehand, the price at this point is regarded as the critical price. Subscriptions made at prices higher than the critical price are invalid. Next, securities exchanges rank all subscriptions at prices over the critical price in descending order, based on the over-subscription multiplier (set and published by issuers and leading underwriters beforehand). When the cumulative subscription at a certain price surpasses the issue volume represented by the over-subscription multiplier, the price is the issue price of new shares.

(2) Base price model

First, subscriptions are made, and issuers and leading underwriters set and release a base price beforehand. Then the price range is expanded, centering upon the base price with CNY0.10 as a change bracket. Such expansion continues until the cumulative subscription reaches the planned issue volume. Subscriptions at prices within the price range (including ceiling and floor prices) are all regarded as valid. The final issue price is set below the critical price (the floor price) of the base price range. Median price, arithmetic average price and weighted average price can be used to set the base price.

(3) Bidding pricing

First subscriptions are made. Then the leading underwriters rank all subscription price biddings in descending order. When cumulative subscriptions at a certain price level reach the issue volume, the price is set as the final issue price.

2.1.3.3 Controlled P/E ratio pricing

In the latter half of 2001, state shares decreased and the stock market slumped dramatically. Almost all new shares issued at prices set by market-based approaches fell below the closing price on their first day of listing. Many shares even fell under the issue price, exposing investors to the grave risk of overpriced share offerings. Authorities also took note of flaws in market-based share issuance. So, in the latter half of 2001, the controlled P/E ratio was reinstated in IPO pricing.

This time, the approach made adjustments to the traditional P/E ratio pricing model. First, the shift range of the price bracket was about 10 per cent. Second, the P/E ratio was no more than 20. Securities firms and issuers can only set the issue price of shares through cumulative bidding and inquiry within a strictly-controlled P/E ratio. Judging from market practices, the P/E ratio of IPOs was kept around 18.

2.1.3.4 Inquiry pricing

On 10 December 2004, the CSRC promulgated the *Circular on Several Issues Concerning Trial Implementation of Inquiry System in IPOs*. According to the *Circular*, starting from 1 January 2005, IPO companies and their sponsors must set the issue price of shares through inquiry. Approval by CSRC is no longer needed. The release of the *Circular* (and its accompanying document, *No.18 Memorandum of Share Issuance Approval Standards – Requirements for Supervising Conditions and Behaviors of IPO Inquiry Objects*) marked the entrance of China's IPO inquiry system for IPO pricing. Under the inquiry system, IPO companies and their sponsors must set the issue price of shares through making inquiries to institutional investors. Two steps are involved: Preliminary inquiry and cumulative bidding inquiry. In the preliminary inquiry, issuers and sponsors make preliminary inquiries to some of the institutions to determine the price range of the IPO. In the cumulative bidding inquiry, issuers and sponsors make cumulative bidding inquiries to all institutional investors to ascertain their subscription, set the issue price and make placements at subscribed volume to institutions. The rest of the shares are offered to public investors online at the same issue price.

On September 11th, 2006, the CSRC published the *Measures for the Administration of Securities Issuance and Underwriting*, which stipulated that the issue price of IPOs must be set through making inquiries to designated institutional investors. Institutional investors (that is, inquiry objects) mentioned by the *Measures* refer to securities investment and fund management companies, securities firms, trust and investment companies, financial companies, insurance institutional investors, qualified foreign institutional investors (QFII) and other institutional investors approved by the CSRC. The inquiry in question consists of both a preliminary inquiry and a cumulative bidding inquiry. Issuers and their leading underwriters set the range of the issue price through the preliminary inquiry, and determine the issue price (within the set price range) through the cumulative bidding inquiry. The establishment of the inquiry system was another step made in share pricing towards market-oriented pricing. But it was by nature a strategic game of investors versus issuers. The system may result in investors underpricing share purchases. It fails to give full play to the market's role, driving the issue price of shares away from market equilibrium.

To curb problems like underpriced subscriptions and overpriced placement, overpriced subscription and default, and overpriced subscription and under-placement, on 11 June 2009, the CSRC rolled out the *Guiding Opinions on Further Reforming and Improving the Issuance System of New Shares* to improve the pricing mechanism. The *Opinions* relaxed window guidance, leaving more freedom in pricing for issuers and leading underwriters. Driven by profits, they will raise the issue price of their own accord. At the same time, an elimination system is introduced in the preliminary inquiry. Investors that fail to make valid biddings in the preliminary inquiry are not eligible to participate in the following cumulative bidding inquiry, rooting out underpriced subscriptions and high-priced placements. In addition, institutions that have provided valid subscription prices in the preliminary inquiry have to participate in the cumulative bidding inquiry and subscriptions. In this way, investors cannot first make

high biddings and then default later. Lastly, the total subscription volume must be no less than the planned subscription volume corresponding to the valid price bidding made in the preliminary inquiry. Thus investors cannot make subscriptions and then buy a smaller volume. In summary, this reform of the inquiry system has reduced the rate of IPO underpricing.

In May 2012, the CSRC released the *Decisions on Revising the Measures for the Administration of Securities Issuance and Underwriting*. New changes were made based on the *Measures*: (1) An IPO may set the issue price by making inquiries to institutions, or issuers and leading underwriters may set the issue price by consultation. Other legal and feasible ways may also be adopted. (2) The scope of inquiry objects is expanded: Institutional investors with strong pricing capabilities and long-term investment intentions, as well as individual investors with rich experience, are included. (3) After the prospectus is published, issuers and leading underwriters may communicate with certain inquiry objects non-publicly and learn about their pricing intentions so as to make predictions about the price range. Other reasonable ways may also be used to forecast the range of the issue price. (4) When the inquiry system is used for pricing, issuers and leading underwriters may set the issue price according to the results of the preliminary inquiry. Alternatively, they may set the range of the issue price through the preliminary inquiry and then set the issue price itself (within the range of the issue price) through the cumulative bidding inquiry.

2.1.4 Market and law-oriented reform of the IPO system

On 30 November 2013, the CSRC released its *Opinions on Further Deepening the IPO System Reform*. The *Opinions* emphasized the role of the market and legal framework in the IPO system, highlighted its supervision philosophy centered upon information disclosure, strengthened information disclosure proper, and set more transparent examinations and review standards. According to the *Opinions*, the process of examination and review was also to be made public. Transparency at various levels and links in the IPO helps guarantee the accessibility of public supervision throughout the process. The *Opinions* is a monumental step in the gradual transition from an approval to a registration system. It is a vivid embodiment of the principles of an accelerated shift in supervisory modes, giving full play to the decisive role of the market, upholding a fair market, and safeguarding the legitimate rights and interests of investors – especially medium- and small-scale investors.

2.1.4.1 Moving towards a registration system: Information disclosure lies at the core of strengthened supervision

The *Opinions* stresses a supervision philosophy with information disclosure at its core. It states that to facilitate investors' decision-making, the content and format of information disclosure must be improved, and that disclosure should be more targeted. Disclosures that are of great influence for investors' decision-making (such as the key business of issuers, business model, external market environment, operational performance, and major risk factors) are emphasized. It also urges issuers to use plain

language in order to enhance the readability of disclosed information and facilitate supervision by medium- and small-scale investors.

The *Opinions* has also specified independent entity responsibilities during issuance shouldered by institutions and personnel providing securities services, such as issuers, sponsors, accounting firms, law firms, certified public values, and so on. Issuance supervision departments and the Public Offering Review Committee under the CSRC are in charge of examining and reviewing the legality and compliance of application papers for public offerings and disclosed information. (No judgment of the issuers' profitability or investment value will be made.) As the first parties responsible for information disclosure, issuers must provide intermediaries with authentic, complete and accurate materials. Sponsors, in turn, must make professional judgments about whether issuers are capable of sustaining profitability and whether issuers meet legal conditions of issuance. Sponsors must also make sure that disclosure materials presented by issuers – such as application documents and the prospectus – are true, accurate, complete and timely. Intermediaries, like accounting firms, law firms and asset evaluation agencies, must likewise guarantee the veracity of relevant professional documents.

Meanwhile, the *Opinions* has also set stricter quality requirements for the prospectus. After the prospectus is published, relevant information about issuers or financial data cannot be altered. Once disparities between application materials are identified, the CSRC will suspend review and recommendations for share placement made by involved sponsors will not be accepted for 12 months. If cases are investigated and placed on file due to false records, misleading statements or major omissions, acceptance of applications recommended by involved intermediaries will also be suspended. If the above-mentioned illegalities are proven true, applications for share offerings made by the same issuer will not be accepted for 36 months after the date of verification. In short, involved intermediaries and parties must be held accountable.

The *Opinions* has tightened requirements on the commitments made by involved responsible entities. It requires issuers to make commitments and puts forward measures in case of failure to honor commitments. All this is subject to disclosure and public supervision. The *Opinions* requires enhanced transparency regarding major shareholders' holding intentions. The restricted stock trade period for major shareholders is pegged to post-listing performance, and issuers must ascertain and publish plans to stabilize share prices if and when share prices fall lower than net asset per share in the three years following a listing.

The *Opinions* has further tightened regulations on relevant responsibility entities. If losses are imposed upon investors due to illegalities during information disclosure, responsible parties such as issuers and their holding shareholders, or involved intermediaries, must compensate for said losses according to relevant laws. If share issuance runs against conditions for listing, issuers must buy back the newly-issued shares, and controlling shareholders must buy the transferred share stock. Further, the credibility record and practice of intermediaries are published in line with regulations in the *Opinions* so

as to regulate their practice. Once clues of illegalities or violations are spotted on the part of issuers, majority shareholders or intermediaries, measures including listing suspension, listing review, case filing and investigation and transfer to judicial authorities must be taken. Thus accountability is strengthened, punishments become harsher, and openness, fairness and equality in the market are supported.

Regulations in the *Opinions* have overall underpinned a market-based regulatory mechanism, strengthened accountability and laid a solid foundation for the IPO registration system.

2.1.4.2 More market-based new share pricing

The *Opinions* has expanded the term of validity of IPO approval documents from six to twelve months, allowing issuers and leading underwriters to choose IPO timing with more flexibility based on the market situation. Going forward, the pace of IPOs will be determined by market demand. The reformed pricing approach also facilitates a more market-based way of setting issue prices by issuers and leading underwriters. After review and approval, the time and method of issuance are determined by issuers, and issue prices more accurately reflect supply–demand dynamics. The *Opinions* also puts more effective reins on overpricing by offline investors. When setting the issue price, at least 10 per cent of the subscriptions with the highest subscription prices must be excluded, eliminating their influence on pricing. Investors that made these subscriptions are forbidden to participate in offline placement, putting an end to subjective quotes and blind over-quotations. Such regulations give full play to the market in rationalizing pricing, curbing overpricing and blind speculation of new shares, and safeguards the legitimate rights and interests of investors.

The *Opinions* has also required individual investors to play their role in determining the issue price. Issuers and leading underwriters must allow eligible individual investors to take part in offline pricing and offline placement. Securities firms with underwriting qualifications must set requirements for individual investors hereby mentioned beforehand and inform the public.

The *Opinions* has emphasized requirements for information disclosure. Issuers and leading underwriters must formulate information disclosure documents about the pricing process and results; these they must release to the public. Prior to online subscription, issuers and leading underwriters must disclose detailed quotations of all offline investors, including the names of investors, their subscription prices and correspondent subscription volume, median and weighted average of quotations made by all offline investors, median and weighted average of quotations made by securities investment funds set up through public placement, the final issue price and corresponding P/E ratio, and so on.

2.1.4.3 Reform of the IPO system

The *Opinions* has introduced an independent leading-underwriter-placement system. Shares issued offline are placed by leading underwriters to a selected group of investors that have made valid quotations. Issuers must consult with leading underwriters to determine the principles and methods of offline placement. These they must disclose in the issue notice. Underwriters must make placement in line with

principles announced beforehand. Placement of new shares respects subscription intentions of medium- and small-scale investors. Also the carry-back mechanism and online placement mechanism have been adjusted accordingly. Carry-back proportions from offline to online placement are set for different brackets of valid subscription multipliers. The introduction of an independent placement system calls for securities firms to consider developing and fostering customers with long-term collaborations and to be responsible for customers' investment returns. To this end, securities firms must make reasonable pricing so as to balance the interests of issuers and customers. In this way, overpricing – which only serves the interests of issuers – can be avoided. At the same time, stronger focus on information disclosure throughout the IPO process intensifies public supervision, prevents backroom deals and guarantees equality, fairness and openness during independent placement by securities firms.

The *Opinions* has reformed online placement approaches. Only investors that hold a certain amount of restricted shares are eligible for online subscription. Such reform serves to encourage investors in secondary markets to hold shares for a longer time, develop a value investing philosophy, prevent speculation in new shares, and mitigate shocks to secondary markets brought about by subscriptions for new share placement. Further, the *Opinions* has stipulated that online subscription volumes for each investor must be no more than one thousandth of the number of the initial share issuance. In this way, institutional investors and shareholders of listed companies are unable to make massive subscriptions for new shares with their capital and shareholding advantages.

According to the *Opinions*, when issuers make IPOs, shareholders that have held shares of the issuer for more than three years are encouraged to transfer part of their shares to investors so that the proportion of tradable shares of the newly-listed companies will be raised. The transfer of old shares is of great significance. First of all, the issue volume of new shares is determined by capital demand, so transfer of old shares is most welcome for issuers whose new share volume falls short of the requirements for listing. Secondly, the transfer of old shares to investors during the IPO helps to increase the proportion of tradable shares. It moderates the overpricing of investors and facilitates reasonable pricing of new shares. Third, clauses in the *Opinions* have stated that excesses in fund-raising can be offset by reduction in old-share holdings. Lastly, moderate transfer of old shares serves to mitigate shocks in secondary markets caused by the sudden lift of limits on non-tradable shares.

2.2 Empirical study: Influence of market-oriented evolution of IPO system on pricing efficiency

The key to IPO pricing lies in how to resolve asymmetric information dynamics between listed companies and investors. Under the former approval system, the CSRC was in charge of allocating listing opportunities and reviewing the quality of companies. So investors made investment decisions based on their faith in regulators. As the IPO system moves towards a more market-oriented one, underwriters assume increasingly important roles. Investment banks gain more freedom during pricing and shoulder more responsibilities for evaluating the credibility and risks of issuers and recommending qualified companies to the CSRC. So investors' pricing of the IPO is also influenced by the credibility of

underwriters. This chapter analyzes the influence of the market-oriented evolution of the IPO system on pricing efficiency by examining the influence of underwriters' credibility on IPO premiums and IPO long-term performance.

2.2.1 Theoretical analyses

Research shows that during the process of an IPO, underwriters are capable of discerning the profitability of issuers, mitigating information asymmetry between issuers and potential investors, and thereby optimizing resource allocation (Booth and Smith, 1986; Carter and Manaster, 1990). According to the Certifying Agent Theory put forward by Booth and Smith (1986), issuers can send good signals about quality to investors through hiring underwriters with high credibility, because underwriters with high credibility will evaluate issuer quality prudently before deciding whether or not to undertake an IPO for them. Naturally, to avoid damaging their own prestige, underwriters with high credibility are more prone to declining underwriting IPOs of low-quality companies. In this way, low-quality issuers have to find underwriters with poor reputations. Chemmanur and Fulghieri (1994) further developed the Certifying Agent Theory. They maintained that IPO underpricing is a decreasing function of underwriter reputation. That is, the greater underwriter reputation, the less asymmetric the IPO information will be. So information conformity between the issue price and the issuer's actual quality can be judged from underwriter reputation.

There has been extensive research into the measurement of underwriter reputation. Carter and Manaster (1990) compared the relative placements of investment banks in tombstone announcements. A discrete scale (0–9) was used as a proxy variable of underwriter reputation: '9' stood for the best reputation and '0' stood for the poorest reputation. Johnson and Miller (1988) revised this reputation scale. They classified reputation into four levels (0–3): '0' represented the highest level and '3' the lowest level. Megginson and Weiss (1991), in contrast, adopted market share as a proxy for underwriter reputation.

Carter and Manaster (1990), Megginson and Weiss (1991) and Carter et al. (1998) sampled IPOs of various kinds in the 1980s and proved a negative correlation between underwriter reputation and IPO underpricing. According to their research, low underpricing rates can be ascribed to high underwriter reputation. Beatty and Welch (1996), Cooney et al. (2001), and Loughran and Ritter (2004), however, found that such a correlation reversed in the 1990s. Loughran and Ritter (2004) argued that the reverse occurred because, during the dot-com bubble, high-reputation underwriters slackened their recommendation standards for listing and started to underwrite hi-tech companies with shorter histories and less certain market prospects. But such an uncertain correlation between underwriter reputation and IPO underpricing was also detected in Japan (Beckman et al., 2001; Kirkulak and David, 2005), Australia (Dimovski and Brooks, 2004; Dimovski et al., 2011) and other countries.

Research shows that not only can underwriter reputation redress information asymmetry in the primary market, but it also helps to boost market confidence in corporate shares. Renowned investment

banks enjoy excellent broker networks and unique research capabilities. They can recommend influential shares to the secondary market (Jenkinson and Ljungqvist, 2001) and fuel the long-term performance of IPOs in the secondary market trading (Carter et al., 1998; Bharat and Kini, 1999). Michaely and Shaw (1994) studied 947 IPOs between 1984 and 1988 and found that the more prestigious the underwriter, the more probable it was that the long-term share performance outweighed that of the overall market. Later research on 2,292 IPOs between 1979 and 1991 by Carter et al. (1998) reached similar conclusions.

Though underwriter reputation has a pronounced impact on IPO underpricing and long-term performance in developed countries, further research on this relationship is needed for emerging markets. Compared with developed markets, emerging markets feature lower information efficiency and more severe information asymmetry (Harvey, 1995; Chan et al., 2008). So it takes longer for information to be fully reflected by asset prices, which may weaken the signaling role of underwriters in emerging markets. Some research has overlooked the influence of underwriter reputation on IPO underpricing and long-term performance, because there is no credible ranking system of underwriter reputation in emerging markets, and because the popular tombstone announcement approach designed by Carter and Manaster (1990) is not applicable outside the United States.

Recently, two studies have introduced a proxy variable for underwriter reputation in China, using regression models to examine the correlation between underwriter reputation and IPO underpricing. Gannon and Zhou (2008) took the top ten underwriters with the largest market shares in 2003 as highly prestigious underwriters. According to their study, IPO samples in 2003 showed no conspicuous positive correlation between underwriter reputation and IPO underpricing. Guo and Brooks (2008) classified underwriters into three grades according to their average market shares. They sampled 286 IPOs between March 2001 and 2005 and found that IPOs underwritten by underwriters of higher reputation in the previous 30 trading days registered lower short-term underpricing rates. However their *t*-statistic result was not statistically significant.

As the world's largest and most important emerging market, China's stock market features some unique characteristics. For example, China's stock market has a short history, and institutional norms and trading rules are also different from those in developed markets. In China's stock market, individual investors are the mainstay, while common funds are still at an infant stage. By the end of 2008, there were respectively 133.95 million individual investors and 570,000 institutional investors. Shareholding structures of Chinese listed companies are also unique: The majority of state shares and legal person

shares are unlisted and stay out of circulation.¹ Problems like bureaucracy and low efficiency are also widely noted and criticized (Chan et al., 2004).²

China's IPO system has departed from administrative control towards market-orientation. As important intermediaries for IPO issuance, underwriters are assuming increasingly crucial roles, and their practices are gaining more attention from the market. Quota management was introduced for new share issuance in 2001. Under this system, total share issuance quotas across the country were set jointly by the CSRC and the State Planning Commission. Then the quotas were distributed to local governments and central departments. The CSRC, rather than investment banks, was in charge of examining and supervising IPO issuers' credibility, business risks and financing scales; the time volumes were also decided by the CSRC. To increase their shares of a quota as much as possible and shy away from the impacts caused by failed IPO issuance, local governments usually assisted issuers in manipulating profits with fiscal subsidies or chose investment banks that were willing to act as underwriters and cover up their deceptive behaviors (Chan et al., 2008; Wang et al., 2008). In April 2001, quota management was replaced by a more market-based approach – the Approval System. The central government no longer imposed limits on annual issuance quotas or the amount of IPOs. Investment banks gained more initiative in pricing and were granted more responsibilities for evaluating issuers' credibility and risks and recommending qualified companies to the CSRC. Apparently, as the IPO system grows more market-oriented, underwriters shoulder more responsibilities and the market has higher requirements for them. Underwriters have to honor their reputations more earnestly. In particular, since the inception of the Sponsor System, IPO issuers' internal quality has had direct bearings upon the long-term reputation within the profession – and even their survival. Proceeding from their own interests, underwriters pay attention to internal quality of IPO companies as well as issuance fees when selecting IPO candidates. As

¹ Common shares of listed companies are comprised of tradable shares and non-tradable shares. Tradable shares include A-shares, B-shares, H-shares and N-shares on the SSE and SZSE. A-shares are RMB-denominated and issued to Chinese residents; B-shares, denominated in US dollars on the SSE and by HK dollars on SZSE, are issued particularly to foreign investors. Non-tradable shares include: (1) State shares held by the State-owned Asset Supervision and Administration Commission of the State Council (SASAC); (2) State-owned legal person shares held by other state-owned enterprises; (3) Legal person shares held by enterprises and public institutions; and (4) Staff shares held by employees (such shares have restricted stock trade period before they become tradable A-shares). By the end of 2008, China's stock market registered a total market cap of CNY12.13664 trillion (CNY9.72519 trillion on the SSE and CNY2.41145 trillion on the SZSE). Market cap of tradable shares stood at only CNY4.52139 trillion (CNY3.23059 trillion for the SSE and CNY1.2908 billion for the SZSE).

² Please refer to Sun and Tong (2003) and Wang et al. (2008) for information about the characteristics of China's IPO system.

a result, IPO candidates prefer underwriters of high prestige as their agents, and renowned underwriters seek IPO companies with good internal quality.

To study the correlation between the underpricing of IPOs, IPO long-term performance, and underwriter reputation, this book takes 1,351 companies listed between 1992 and 2007. In previous studies (Megginson and Weiss, 1991; Kirkulak and David, 2005; Dimovski et al., 2011), it was hypothesized that underwriter reputation remained fixed throughout the analysis. However in this study, the relative market share of each underwriter and the total number of underwritten IPO companies are used as proxy variables for underwriter reputation. All samples are divided into five periods with three years over the entire sample period. Mergers and reorganizations of securities firms are also taken into account. To conduct a comparative study, all samples are divided into two groups: A quota system group (hereafter referred to as the old system group), comprised of IPOs between 1992 and 2000, and an Approval System group (hereafter referred to as the new-system group), comprised of IPOs between 2001 and 2007. This study compares the signaling role of underwriters in underpricing prior to and after the reform of the IPO issuance system, so as to verify the efficacy of the market-oriented IPO reform in reducing administrative intervention.

2.2.2 Data description and methodology

2.2.2.1 Sampling and data source

Research in this study includes all IPO companies listed on the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE) between January 1992 and December 2007. Except for those not underwritten by investment banks, there are in total 1,351 sampled IPOs, taking up 85.24 per cent of all A-shares in the sampled period. Among these, 775 were listed on the SSE and 576 on the SZSE. Data mentioned in this book, such as the issue price, issue volume, amount of tradable shares, total equity, and the interval between listing and issuance and additional issue, are collected by the CSMAR database. The accuracy of this data has been verified with prospectuses of listed companies and official sites of the SSE (<http://www.sse.com.cn>) and the SZSE (<http://www.szse.cn>). Other data, such as closing prices of the first day of listing, daily return rates, and A-share indexes for both exchanges, are collected from DataStream. When calculating the daily return rate, factors like stock splits, stock dividends and preferred shares are taken into account.

2.2.2.2 Measurement of underpricing rate

Initial return (IR) adjusted by market index is the ratio between the closing price on the first day of listing and the issue price of new shares (minus the ratio between the closing index on the first day of listing on either the SSE or SZSE and A-share closing index on the day of listing on the SSE or SZSE). The formula is as follows:

$$IR_i = (p_{i,1} / P_{i,0}) - (I_{i,1} / I_{i,0}) \quad 2.1$$

In the formula, IR_i is the initial return adjusted by the market index; $p_{i,1}$ is the closing price on the first day of listing; $P_{i,0}$ is the issue price of new shares; $I_{i,1}$ is the closing index on the first day of listing; $I_{i,0}$ is the closing index on the day of listing.

Table 2.1: Temporal distribution of China's IPOs and distribution of issuance volume

	Full Sample			Shanghai Stock Exchange			Shanghai Stock Exchange		
	N	IR	Issuance Scale	N	IR	Issuance Scale	N	IR	Issuance Scale
Panel A: Year									
1992	25	2,039.33	3,583.09	20	2484.53	1,912.13	5	258.55	1,670.96
1993	83	266.33	21,015.44	50	330.46	10,457.05	33	169.17	10,558.39
1994	82	133.14	17,366.73	57	142.21	13,376.51	25	112.48	3,990.22
1995	11	93.34	2,532.50	8	90.85	2,149.14	3	99.97	383.35
1996	160	128.73	23,891.50	83	111.39	12,776.84	77	147.42	11,114.66
1997	172	154.87	60,518.86	72	152.69	22,854.93	100	156.44	37,663.93
1998	89	129.89	39,856.30	47	138.72	22,775.71	42	120.02	17,080.59
1999	82	120.77	46,185.58	37	112.17	21,906.76	45	127.84	24,278.82
2000	128	146.12	85,672.25	86	148.18	60,899.74	42	141.90	24,772.51
2001	77	149.55	64,449.54	77	149.55	64,449.54	0	--	--
2002	69	133.00	53,365.44	69	133.00	53,365.44	0	--	--
2003	67	72.25	49,970.78	67	72.25	49,970.78	0	--	--
2004	100	72.20	38,517.63	61	72.78	24,930.12	39	71.29	13,587.52
2005	15	48.95	5,763.07	3	76.32	2,854.54	12	42.10	2,908.53
2006	65	81.94	126,242.46	13	34.33	110,328.34	52	93.84	15,914.12
2007	126	189.05	460,517.72	25	125.16	420,068.42	101	204.87	40,449.30
1992–2000	832	207.25	300,622.25	460	258.04	169,108.82	372	144.45	131,513.43
2001–2007	519	120.68	798,826.63	315	107.23	725,967.16	204	141.46	72,859.47
Panel B: Issuance Volume									
Small	270	364.27	27,064.76	155	476.64	14,623.76	115	215.14	12,444.93
2	270	155.65	51,881.82	155	184.77	32,073.55	115	141.09	20,666.21
3	271	144.00	77,103.05	155	140.51	48,907.53	116	123.35	29,116.34
4	270	122.26	113,977.73	155	109.93	71,584.64	115	130.51	41,989.18
Big	270	83.91	829,421.52	155	71.86	727,886.51	115	107.03	100,156.23
Full sample	1,351	174.00	1,099,448.88	775	196.74	895,075.98	576	143.39	204,372.90

Panel A in Table 2.1 shows the descriptive statistical analysis of the number of IPOs between 1992 and 2007 and their IR adjusted by the market index and issuance volume. The issuance volume has been adjusted based on the Consumer Price Index (CPI) in 2005. The CPI between 1992 and 2007 is gained through collecting relative data from the National Bureau of Statistics. Among all the samples, 1995 saw the smallest number of 11 IPOs, and in 1997 the number increased several-fold to 172 IPOs. In 2000, the CSRC planned to set up the Growth Enterprise Market (GEM) for small- and medium-sized enterprises on the SZSE. As a result, issuance of new shares was suspended on the SZSE for three consecutive years from 2001 and 2003. As can be seen in Panel A in Table 2.1, the average adjusted IR of 1,351 IPOs stands at 174.00 per cent, corroborating the conclusions of most studies that China's primary market has been under-estimated by a large margin. From 2001 to 2007, a new IPO system was put in place. Average adjusted IR for 519 IPO-listed companies stood at 120.68 per cent – significantly lower than the

207.25 per cent average adjusted IR of 832 IPOs under the old system. This contrast is significant under 1 per cent (t -stat = 3.34; Kruskal–Wallis $\chi^2 = 13.31$). The results imply that the new IPO issuance system is conducive to reducing IPO underpricing.

To test influence of issuance volume on IPO underpricing, 1,351 IPOs in the sample are divided into five groups according to issuance volume adjusted for CPI. Panel B in Table 2.1 shows that there is an obvious negative correlation between IR and issuance volume. Specifically, the small-volume group (IPOs whose volumes are below CNY152.8 million) registers an average IR of 364.27 per cent, while the large-volume group (IPOs whose volumes are over CNY537.7 million) registers an average IR of merely 83.91 per cent. Average issuance volume for IPOs on the SSE is CNY1.15494 billion. Under the significance level of 1 per cent, this figure is dramatically higher than that of the SZSE's CNY354.81 million (t -stat = 3.01; Kruskal–Wallis $\chi^2 = 9.02$).

2.2.2.3 Measurement of long-term performance of IPOs

Measurement of the long-term performance of IPOs has long been controversial. This book adopts the conventionally used Event Time and Calendar Time approaches. Ritter (1991) applied the CAR approach in monthly asset portfolio rebalancing to measure the long-term performance of IPOs, but Conrad and Kaul (1993) and Barber and Lyon (1997) have argued that CAR may cause a downward deviation because dependent months are used. This, they reason, fails to accurately reflect long-term returns to investors. Barber and Lyon (1997) and Lyon et al. (1999) noted that BHAR is a better approach to measure long-term abnormal returns, because the holding strategies represented by BHAR better mirror investors' actual behaviors. Furthermore, BHAR can sidestep problems introduced by frequent transactions and reduce statistical bias that occurs in CAR. Despite this, Mitchell and Stafford (2000) and Brav et al. (2000) prefer CAR. They maintained that BHAR is more sensitive to cross-section dependency among samples, thus amplifying long-term abnormal returns.

Fama (1998) summarized documents and literature on the computing methods of abnormal returns. He remarked that abnormal returns may be caused by measurement methods, and in the long run, abnormal returns tend to disappear due to changes in computing methods. According to Gompers and Lerner (2003), the three-factor model put forward by Fama and French (1993) holds special significance for the measurement of long-term returns in that it serves to control clusters of events and potential cross-section correlations. Gompers and Lerner (2003) studied 3,661 IPOs between 1935 and 1972, finding that long-term underperformance calculated by BHAR lasted for more than five years, but no long-term abnormal returns were spotted using CAR analysis. The result was consistent with the pseudo-market timing theory: Long-term underperformance forecasted by Event Time did not occur in the Calendar Time scenario (Schultz, 2003). Loughran and Ritter (2004) held that it was difficult for Calendar Time to measure long-term abnormal return because it averaged months of hot-issue markets and cold-issue markets.

As no consensus has been reached on the optimal calculation method for long-term abnormal returns (Lyon et al., 1999), this study measures long-term abnormal returns by Event Time and Calendar Time: 1) Under the Event Time scenario, the selection of paired companies include industry, size and book-to-market ratio; 2) The intercept in Calendar Time comes from a multi-factor model.

(1)Event time approach

On average, China's stock market trades for 242 days each year, 20 days a month. Twenty consecutive trading days, starting from the first trading day, are defined as an event month. The IR period is defined as the first day of listing; the period from the second day to the 21st is the first month; the 22nd to 41st the second month, and so on. An IPO's long-term performance (IR excluded) is assessed by calculating adjusted BHARs and CARs of paired companies in the 36 consecutive months after listing.

Modern capital asset pricing theory deems it very important to choose a suitable benchmark (Ritter, 1991; Fama and French, 1996; Lyon et al., 1999), though Barber and Lyon (1997) thought paired companies are the most suitable benchmarks for measuring long-term returns, as they can accommodate particular statistical tests. As Perry and William (1994) noted, similar economic and competitive factors would generate comparability among companies in operation, investment and financing, so companies can be classified in terms of industry, size and book-to-market ratio. If no paired companies meet these three standards at the same time, only standards for industry and book-to-market ratio have to be reached.

This book pairs each IPO company with one non-IPO company listed for more than three years on the SSE. Pairing abides by the following principle: The sample company and the pair company belong to the same industry with similar book-to-market ratios. Specifically speaking, the market cap of the pair company must be no less than 80 per cent and no more than 120 per cent of that of the sample company. Market cap is calculated by multiplying the total amount of tradable shares by the closing price on the first day of listing. The book-to-market ratio of the paired company is the result of dividing its book value by its market cap from the previous year. The wave range of the book-to-market ratio stands between 90 per cent and 110 per cent (Jain and Kini, 1994; Loughran and Ritter, 1997). If there are not enough candidate companies within a certain industry, pair companies can be selected from similar industries based on size and book-to-market ratio. Among 1,531 samples included in this book, 1,201 are paired in terms of industry, size and book-to-market ratio, 141 are paired based on industry and book-to-market ratio, and the remaining 189 are paired in similar industries based on size and book-to-market ratio (the industry distribution of all samples can be found in Appendix I).

First, according to the equation put forward by Loughran and Ritter (1995), the $BHAR_{i,T}$ adjusted for a paired company after T periods is:

$$BHAR_{i,T} = BHR_{i,t} - BHR_{m,t} = [\prod_{t=1}^T (1 + R_{i,t}) - 1] - [\prod_{t=1}^T (1 + R_{m,t}) - 1] \quad 2.2$$

In the equation, $BHR_{i,t}$ stands for rate of return for buying and holding No. i IPO, $BHR_{m,t}$ stands for the rate of return for buying and holding shares of No. i paired company, $R_{i,t}$ stands for the monthly rate of return of No. i IPO in month t , and $R_{m,t}$ stands for the monthly rate of return of No. i pair company in month t .

For N IPOs, equally weighted $\overline{BHAR}_T$ adjusted for paired companies after T periods can be calculated by the following formula:

$$\overline{BHAR}_T = \frac{1}{N} \sum_{i=1}^N BHAR_{i,T} \quad 2.3$$

Lyon et al. (1999) used t -statistics adjusted for skewness to test the significance level of $\overline{BHAR}_T$:

$$t_{sa}(\overline{BHAR}_T) = \sqrt{N} \left(S + \frac{1}{3} \hat{\gamma} S^2 + \frac{1}{6N} \hat{\gamma} \right) \quad 2.4$$

In the formula above, $S = \frac{\overline{BHAR}_T}{\sigma(BHAR_T)}$, $\hat{\gamma} = \frac{\sum_{i=1}^N (BHAR_{i,T} - \overline{BHAR}_T)^3}{N \sigma(BHAR_T)^3}$, and $\hat{\gamma}$ represents the estimate of the coefficient of skewness.

For N IPOs, the rate of abnormal return during holding period adjusted for a paired company and equally weighted for t months is calculated by the following equation:

$$AR_t = \frac{1}{N} \sum_{i=1}^N (R_{i,t} - R_{m,t}) \quad 2.5$$

The accumulative value, CAR_T , adjusted for a paired company of T months is given by:

$$CAR_T = \sum_{t=1}^T AR_t \quad 2.6$$

The t -statistics for CAR_T adopt the method put forward by Ritter (1991):

$$t(CAR_T) = CAR_T \sqrt{N} / csd_t \quad 2.7$$

In this formula, $csd_t = [t \times \text{var} + 2 \times (t-1) \times \text{cov}]^{1/2}$, where var stands for the average cross-sectional variance of $AR_{i,t}$ in the holding period of 36 months and cov stands for first order autocovariance of the series.

(2) Calendar Time approach

To eliminate cross-sectional interdependence among samples under the Event Time scenario and render more robust research results, two Calendar Time methods are used to measure the long-term abnormal return of IPOs. First of all, the average monthly rate of abnormal returns to IPO investment portfolios

listed within 36 months is calculated between January 1994 and December 2008. Secondly, two multi-factor models are regressed to test the significance of time sequence on long-term returns. The three-factor model designed by Fama and French (1993) is:

$$R_{p,t} - R_{f,t} = \alpha_i + \beta_i(R_{m,t} - R_{f,t}) + s_iSMB_t + h_iHML_t + \varepsilon_{i,t} \quad 2.8$$

where $R_{p,t}$ is the portfolio return of the IPO in month t , $R_{f,t}$ stands for the risk-free interest rate,³ which can be observed at the beginning of month t , $R_{m,t}$ represents the market return rate weighted by market cap in month t , SMB_t represents the zero portfolio return rate – the rate of return of small-cap shares minus the rate of return of large-cap shares, HML_t is the zero portfolio return rate (high-BM stock return minus low-BM stock return) and $\varepsilon_{i,t}$ stands for the residual.

Carhart (1997) further developed the three-factor model, adding a momentum factor to reflect the momentum effect proposed by Jegadeesh and Titman (1993). The subsequent four-factor model is as follows:

$$R_{p,t} - R_{f,t} = \alpha_i + \beta_i(R_{m,t} - R_{f,t}) + s_iSMB_t + h_iHML_t + m_iWML_t + \varepsilon_{i,t} \quad 2.9$$

Here, WML_t is the momentum factor, representing the zero-investment-portfolio rate of return: The winner-portfolio rate of return minus the loser-portfolio rate of return. Other variants are the same as in equation 2.8.

The intercept of the multi-factor regression can be used to test whether the average monthly rate of abnormal return for IPO investment portfolio is zero. With market, size, value and momentum factors under control, the intercept is notably positive or negative, signaling excellent or poor long-term performance of IPO returns.

(3) Cross-section ordinary least squares (OLS) regression

Cross-section OLS regression confirms that underwriters serve to certify IR and long-term return of IPOs. To reduce the potential influence of the abnormal distribution of BHAR for three years on long-term underperformance in IPOs, research in this study uses the natural logarithm of the sum of equally weighted BHAR, adjusted for paired companies in the following three years, and 1,000 per cent. The dependent variables of IR (adjusted for market index) and LnBHAR are regressed against the reputation variables REP1 and REP2. REP1 assumes that the larger the market share managed by an underwriter, the higher its reputation is. REP2, however, assumes that the more IPOs an underwriter undertakes, the more

³ In this book, the rate of return on 3-month residents' deposits is set as the risk-free interest rate. The frequently-used 3-month Treasury bond rate was rolled out in 2001, and it does not apply in this research (Wang, 2004; Chang et al., 2010).

familiar investors are with it and the more prestigious the underwriter is (Megginson and Weiss, 1991; Dimovski, et al., 2011). In previous studies, underwriter reputation was assumed to be the same during the full sampled period, but this study takes into account changes in underwriter reputation caused by mergers of securities firms. There are altogether five periods: 1992–4, 1995–7, 1998–2000, 2001–3 and 2004–7. In each period, REP1 (the proportion of underwritten volume in total issuance volume) and REP2 (the amount of IPOs undertaken by each underwriter) are calculated. If the IPO of the same company is underwritten by two or more underwriters, the underwritten volume is evenly distributed among the underwriters.

To evaluate the marginal effects of the reputation variables, seven additional variables are added into the regression model (as applied in previous research) in order to control for IPOs risks. Table 2.2 describes definitions of all control variables in the cross-section OLS regression model. The regression model is:

$$IR \text{ or } LnBHAR = \alpha + \beta_1[REP1 \text{ or } REP2] + \beta_2 LNSIZE + \beta_3 SEO + \beta_4 FLOAT + \beta_5 SD + \beta_6 MARKET + \beta_7 TECH + \beta_8 LNLAGE + \varepsilon, \quad 2.10$$

Table 2.2: Definitions of variables

Control Variables	Definition
LNSIZE	LNSIZE is the natural logarithm of the total issuance size. Issuance size is the accumulated capital for IPO issuance with one million yuan as the unit of measurement. LNSIZE serves to control the systemic influences of IPO issuance under par. Compared with big companies, small companies disclose less information and hold more risks and uncertainties (Beatty and Ritter, 1986).
SEO	SEO stands for proxy variables. If an IPO company issues additional shares within three years, then its value is 1; otherwise it is 0. Allen and Faulhaber (1989) and Welch (1989) held that IPO underpricing can be regarded as a signal sent by companies to investors, and that investors can receive compensation from additional issuance.
FLOAT	FLOAT is the proportion of tradable shares in total shares issued. Most state shares and some legal person shares cannot enter circulation, so there arise agency costs and low liquidity. In fact, IPO underpricing is constant compensation for growing risks (Chen et al., 2004).
SD	SD is the standard deviation of returns for IPO companies. It shows potential cash flow risks for companies (Johnson and Miller, 1988). It is calculated via the rate of return for IPO companies' time sequence during the time sequence [1,244]; 244 is selected because the average trading days of China's stock market between 1992 and 2007 are 244 days.
MARKET	MARKET stands for the A-share weighted average return of the SSE and SZSE in the three months before listing. The weight is determined by time: Weight stands at three for the nearest month, two for two months, and one for three months. Companies can issue an IPO on occasions of good market performance. (Derrien and Womack, 2003).
TECH	TECH stands for proxy variables. If an IPO company is a hi-tech company, its TECH value is 1, otherwise it is 0. The industry breakdown follows standards released by the CSRC in 2006. Compared with traditional industries, hi-tech companies bear higher risks but may harvest greater developments in the future (Ritter, 1991).
LNLAGE	LNLAGE stands for the natural logarithm of the interval between IPO issuance and listing. Generally speaking, a delay in listing adds risks for listed companies.

Panels A and B in Table 2.3 provide descriptive statistics for the variables and the Pearson correlation coefficients. For example, IPO companies of larger size and higher maturity are generally underwritten by securities firms with higher reputations. These companies normally register low stand deviations in IR and lower risks, but the proportion of tradable shares is also lower.

2.2.3 Case study and analyses of IPO underpricing

2.2.3.1 Analysis of IPO underpricing under two reputation variables

All IPOs are divided into high- and poor-reputation groups, based on the median of REP1 in each period. As can be seen in Panel A in Table 2.4, in the old system period (1992 to 2000), the IR of the high-reputation group was 247.11 per cent. This was far higher than that of the poor-reputation group (170.35 per cent). Parametric and non-parametric tests verify the significance of these results at the level of 5 per cent (t -stat = 2.49) and 1 per cent (Kruskal–Wallis $\chi^2 = 7.97$). However, under the new system (from 2001 to 2007), the average IR of the poor-reputation group at the 5 per cent level was far higher than that of the high-reputation group (t -stat = 2.28; Kruskal–Wallis $\chi^2 = 5.94$). Panel B in Table 2.4 shows grouping results based on the median of REP2 in various periods.

Table 2.3: Descriptive statistics of variables and Pearson correlation coefficients

	REP1	SIZE	SEO	FLOAT	SD	MARKET	TECH	LAG
Panel A: Descriptive Statistics								
Quota Management Period: 1992–2000								
Mean	6.70	361.32	0.53	24.43	3.90	7.38	0.06	87.74
Median	5.87	245.79	0.00	25.00	3.62	3.54	0.00	30.00
Max	18.47	8,369.81	2.00	65.42	31.21	155.19	1.00	3,373.00
Min	0.07	22.18	0.00	0.88	1.11	–53.10	0.00	0.00
St. Dev.	5.32	486.07	0.55	9.33	2.16	20.72	0.23	233.94
Approval System Period: 2001–2007								
Mean	3.46	1,539.16	0.35	27.31	3.10	3.48	0.07	23.91
Median	1.22	327.87	0.00	27.27	2.93	0.50	0.00	15.00
Max	27.77	62,846.93	2.00	57.77	6.12	53.50	1.00	3,385.00
Min	0.02	89.15	0.00	1.36	1.28	–17.60	0.00	0.00
St. Dev.	5.62	5,864.76	0.51	9.33	1.04	14.06	0.25	148.18
Panel B: Pearson Correlation Coefficients								
	REP1	LNSIZE	SEO	FLOAT	SD	MARKET	TECH	LNLAG
The upper triangular matrix holds correlation coefficients of explanatory variables for 832 sampled IPO companies during the Quota Management period (1992–2000)								
REP1	1	–0.176	0.031	–0.173	0.075	0.106	0.026	0.029
REP2	0.730	–0.109	0.045	–0.246	0.068	0.156	0.001	0.039
LNSIZE	–0.147	1	–0.022	0.066	–0.125	–0.106	–0.081	–0.118
SEO	0.055	–0.026	1	0.079	–0.188	–0.096	0.007	0.014
FLOAT	–0.156	–0.042	0.155	1	–0.390	–0.021	–0.050	0.226
SD	0.046	–0.113	–0.239	–0.157	1	0.127	0.002	–0.155
MARKET	0.064	–0.090	–0.165	–0.034	0.118	1	–0.022	–0.204
TECH	0.020	–0.037	0.047	–0.047	0.065	0.010	1	–0.029
LNLAG	–0.043	–0.209	0.094	–0.085	0.174	–0.105	–0.011	1
The lower triangular matrix holds correlation coefficients of explanatory variables for 519 sampled IPO companies during the Approval System period (2001–2007)								

Table 2.4: Underwriter reputation and IR adjusted for market index of IPO companies

Reputation Variables	Quota Management period: 1992–2000				Approval System period: 2001–2007			
	N	Mean	Median	St. Dev.	N	Mean	Median	St. Dev.
Panel A: REP1								
Low	432	170.35	121.39	306.67	262	130.33	92.82	100.93
High	400	247.11	129.04	540.37	257	110.85	90.81	94.21
<i>t</i> -stat		(2.49)**				(2.28)**		
χ^2		(7.97)***				(5.94)**		
Panel B: REP2								
Low	450	169.83	123.53	301.09	268	131.74	92.35	101.40
High	382	251.34	128.11	552.21	251	112.96	91.70	93.51
<i>t</i> -stat		(2.57)***				(2.26)**		
χ^2		(8.01)***				(6.14)**		
Full sample	832	207.25	125.12	436.68	519	120.68	92.03	97.67

2.2.3.2 Analysis of results of cross-section OLS regression

According to Table 2.4, from 1992 to 2000 (the old system period), underwriter reputation had a positive influence on IPO underpricing, while in the new-system period, it negatively influenced IPO underpricing. Here these conclusions are tested through a cross-section OLS regression based on 1,351 IPOs on the SSE and SZSE.

In Panel A in Table 2.5, regression models (1) and (2) describe correlations between IPO underpricing, REP1 and REP2 (respectively), and other control variables under the old system scenario. Regression models (3) and (4) describe correlations between IPO underpricing, REP1 and REP2 (respectively) and other control variables under the new-system scenario. The OLS regression analysis results are consistent with those in Table 2.4, verifying the positive influence and negative influence of underwriter reputation on IPO underpricing in the old- and new-system periods, respectively. Such correlations between underwriter reputation and IPO underpricing enriches existing research conclusions about emerging markets, and holds great significance for China's reform of the IPO issuance system. The Approval System helps to correct information asymmetry in the new share issuance market, but it can also reduce IPO underpricing effectively.

Table 2.5: Analysis of the results of influence of underwriter reputation on IR of IPO companies

	Intercept	REP1	REP2	LNSIZE	SEO	FLOAT	STD	MARKET	TECH	LNLAG	Adj. R ²
Panel A: full sample											
Quota Management period: 1992–2000											
(1)	1.7065	0.5618		−0.9382	0.1703	−0.6508	0.4372	0.8452	0.7983	0.6284	0.179
		(2.01)**		(−4.98)***	(0.65)	(−4.27)***	(5.97)***	(3.43)***	(1.35)	(2.50)**	
(2)	1.7053		0.5406	−0.9302	0.1602	−0.6541	0.4374	0.8262	0.8256	0.6370	0.179
			(2.21)**	(−4.34)***	(0.48)	(−3.17)***	(4.28)***	(3.59)***	(1.19)	(2.59)***	
Approval System period: 2001–2007											
(3)	1.0424	−0.1705		−0.2346	0.0054	−0.8570	0.2761	1.7187	0.4196	0.0371	0.248
		(−2.08)**		(−2.83)***	(0.07)	(−1.59)	(6.54)***	(5.96)***	(2.31)**	(0.25)	
(4)	1.0633		−0.1583	−0.2178	0.0069	−0.6845	0.2777	1.7079	0.4298	0.0288	0.242
			(−2.01)**	(−2.62)***	(0.09)	(−1.26)	(5.15)***	(5.48)***	(1.68)*	(0.20)	
Panel B: Sample IPO companies on Shenzhen Stock Exchange											
Quota Management period: 1992–2000											
(5)	1.8381	0.8465		−1.1463	0.2298	−0.5138	0.4723	1.2427	0.5573	0.5193	0.199
		(1.72)*		(−3.63)***	(0.51)	(−4.02)***	(4.62)***	(2.26)**	(0.60)	(1.99)**	
(6)	1.8394		0.7672	−1.1396	0.2191	−0.5161	0.4734	1.2151	0.5798	0.5153	0.198
			(2.01)**	(−3.23)***	(0.38)	(−3.17)***	(3.70)***	(2.12)**	(0.63)	(2.51)**	
Approval System period: 2001–2007											
(7)	1.1063	−0.1989		−0.3327	0.0418	−0.4186	0.1390	2.2621	0.2911	0.4951	0.325
		(−2.06)**		(−2.89)***	(0.56)	(−0.78)	(1.97)**	(4.64)***	(2.03)**	(1.25)	
(8)	1.1049		−0.1598	−0.3262	0.0370	−0.5522	0.1404	2.2438	0.2847	0.4897	0.323
			(−1.83)*	(−2.88)***	(0.50)	(−1.06)	(1.98)**	(4.55)***	(1.98)**	(0.83)	

Samples consist of listed companies on the SSE and SZSE, with differences among them. The SSE provides listing opportunities for mature and large companies, while the SZSE provides listing opportunities for emerging medium- and small-sized hi-tech companies. So the market cap of IPOs on the SZSE is smaller, and underpricing is more severe than IPOs on the SSE (see Table 2.1). To eliminate potential bias caused by listing on different stock exchanges, Panel B in Table 2.5 only tests samples on the SSE. The results in Panel B are similar to those in Panel A: A positive correlation is observed between IPO underpricing and underwriter reputation under the old system, but this relationship reverses to

negative under the new system. Further research excludes 31 abnormal values, and the discrete value is controlled no higher than 2.5 standard deviations. The results in Table 2.6 show no changes in this conclusion.

Table 2.6: Analysis of results of the influence of underwriter reputation on IR of IPO companies (abnormal values excluded)

	Intercept	REP1	REP2	LNSIZE	SEO	FLOAT	STD	MARKET	TECH	LNLAG	Adj. R ²
Panel A: Full sample											
Quota Management period: 1992–2000											
(9)	1.6572	0.3033		−0.4562	0.0159	−0.4391	0.1933	0.4772	0.3368	0.3283	0.177
		(3.10)***		(−5.44)***	(0.13)	(−2.70)***	(3.58)***	(2.16)**	(1.55)	(3.61)***	
(10)	1.6616		0.2781	−0.4516	0.0111	−0.4662	0.1935	0.4896	0.3523	0.3253	0.166
			(2.82)***	(−5.38)***	(0.09)	(−2.75)***	(3.58)***	(2.22)**	(1.61)	(3.58)***	
Approval System period: 2001–2007											
(11)	0.8058	−0.2102		−0.2099	0.0029	−0.5129	0.1312	1.2211	0.4672	0.0275	0.257
		(−2.98)***		(−3.42)***	(0.04)	(−1.33)	(3.56)***	(5.10)***	(2.90)***	(0.25)	
(12)	0.7643		−0.1124	−0.1913	0.0017	−0.3470	0.1339	1.1902	0.3518	0.0471	0.255
			(−1.73)*	(−3.21)***	(0.03)	(−0.90)	(3.62)***	(4.91)***	(2.16)**	(0.42)	
Panel B: Sample IPOs on SZSE											
Quota Management period: 1992–2000											
(13)	1.6179	0.3758		−0.3602	0.1119	−0.5337	0.2399	0.7337	0.2356	0.4073	0.215
		(2.89)***		(−4.06)***	(0.60)	(−3.22)***	(4.99)***	(2.43)**	(0.84)	(4.32)***	
(14)	1.6081		0.3564	−0.3540	0.1230	−0.5583	0.2405	0.7556	0.2552	0.4034	0.204
			(2.76)***	(−3.98)***	(0.66)	(−3.36)***	(5.02)***	(2.52)**	(0.91)	(4.30)***	
Approval System period: 2001–2007											
(15)	0.8311	−0.2300		−0.3129	0.0382	−0.1774	0.4748	1.9258	0.2462	0.1258	0.344
		(−2.63)***		(−3.30)***	(0.55)	(−0.37)	(1.65)*	(4.51)***	(1.88)*	(1.02)	
(16)	0.8093		−0.1447	−0.3010	0.0291	−0.4305	0.6476	1.8736	0.2323	0.1550	0.343
			(−1.93)*	(−3.48)***	(0.43)	(−0.85)	(2.21)**	(4.66)***	(1.61)	(1.48)	

2.2.3.3 Endogenous problems

Habib and Ljungqvist (2001), Ljungqvist et al. (2003) and Fernando et al. (2005) all think that the application of the above regression models may cause errors because underwriter reputation is an endogenous variable. To guarantee the validity of both results and conclusions, when measuring REP1 and REP2, the least square estimation (LSE) of the former period is replaced by a two-stage LSE model. Inspired by Tian (2011), this study uses range information between venture capitalists and companies. When constructing reputation indexes, investment banks that are closest to each IPO company are incorporated into analyses of the two-stage OLS regression model as an instrumental variable. The authors of this study maintain that underwriters closer to IPO companies have lower information costs, and they are more likely to underwrite for these companies. For example, if an IPO company is located near CITIC Securities, it may choose CITIC as its underwriter. Addresses of all listed companies are obtained from their prospectuses, and addresses of securities firms are obtained from the Securities Association of China (SAC). As headquarters of some securities firms keep changing, researchers have checked addresses of all securities firms in the listing announcements of IPO companies. Spatial distance between major securities firms and each IPO company is measured by Google maps and the closest underwriter to each company is chosen. If one company is underwritten by two or more securities firms, distance from the company and its leading underwriter is measured. The one-stage OLS regression model includes the instrumental variables (IV) of the closest underwriter to listed company, relative market share of underwriters REP1 and other control variables:

$$REP1 = \alpha + \beta_1 IV + \beta_2 LNSIZE + \beta_3 SEO + \beta_4 FLOAT + \beta_5 SD + \beta_6 MARKET + \beta_7 TECH + \beta_8 LNLG + \varepsilon$$
2.11

In the two-stage analysis, the REP1 coefficient gained through the one-stage OLS regression (listed below) is used to replace REP1 in regression models (1) and (2) in Table 2.5:

$$IR = \alpha + \beta_1 REP1 + \beta_2 LNSIZE + \beta_3 SEO + \beta_4 FLOAT + \beta_5 SD + \beta_6 MARKET + \beta_7 TECH + \beta_8 LNLG + \varepsilon$$
2.12

Table 2.7: Endogenous problems of two-step OLS (full sample)

	Intercept	IV	REP1	LNSIZE	SEO	FLOAT	STD	MARKET	TECH	LNLAG	Adj. R ²
Panel A: Quota Management period: 1992–2000											
First regression analysis											
	0.4133	0.5202		0.6180	0.1165	−0.2058	0.4048	0.7887	0.1649	0.0637	0.267
		(1.87)*		(2.02)**	(1.37)	(−2.10)**	(1.50)	(2.62)***	(0.87)	(1.35)	
Second regression analysis											
(17)	1.8000		0.8364	−0.7179	0.7869	−0.5129	0.5251	0.8271	0.5498	0.0510	0.275
			(2.10)**	(−2.03)**	(0.59)	(−2.23)**	(4.56)***	(3.62)***	(1.28)	(1.56)	
Panel B: Approval System period: 2001–2007											
First regression analysis											
	0.4554	0.3624		0.9435	0.1413	−0.7030	0.5996	0.3427	0.2280	0.0694	0.245
		(1.80)*		(2.91)***	(1.21)	(−2.29)**	(1.52)	(1.82)*	(1.18)	(1.54)	
Second regression analysis											
(18)	1.0193		−0.9411	−0.6533	0.0335	−0.5759	0.3325	0.9668	0.1775	0.0673	0.348
			(−2.08)**	(−2.34)**	(0.43)	(−1.84)*	(3.35)***	(3.17)***	(0.99)	(1.46)	

Panels A and B in Table 2.7 show the results of the regression models of all IPOs on the SSE and SZSE. As can be seen, under the old and new systems, the positive influence of the IV on underwriter reputation stays at the 10 per cent level (t -stat = 1.87; t -stat = 1.80). A correlation coefficient under 0.1 means there is no notable correlation between the IV and other residuals in the regression model. An R^2 value of 26.68 per cent and 24.45 per cent means that these variables hold strong explanatory power in selecting underwriters. The two-stage regression analysis shows that in regression models (19) and (20), coefficients under the level of 5 per cent are notably positive or negative, which is consistent with the conclusions reached previously: Under old or new systems, underwriter reputation exerts notably positive or negative influence on IPO underpricing.

To eliminate the potential confounding influence of exchanges, data from the SSE is used to conduct a two-stage OLS regression analysis. The results shown in Table 2.8 do not change our former conclusions. Lastly, REP2 is used as a dependent variable and one-stage OLS regressions in Table 2.7 and 2.8 are conducted, with similar results. The processes are not listed here for the sake of brevity.

Table 2.8: Endogenous problems of two-step OLS (based on SSE data)

	Intercept	IV	REP1	LNSIZE	SEO	FLOAT	STD	MARKET	TECH	LNLAG	Adj. R ²
Panel A: Quota Management period: 1992–2000											
First regression analysis											
	0.4860	0.5845		0.6820	0.0922	−0.2565	0.4855	0.8095	0.2830	0.0232	0.284
		(2.23)**		(1.68)*	(0.79)	(−1.95)*	(1.15)	(2.41)**	(1.21)	(0.33)	
Second regression analysis											
(19)	1.6621		0.7241	−0.6524	0.8975	−0.2885	0.5877	0.9239	0.5213	0.6875	0.299
			(2.15)**	(−2.01)**	(1.01)	(−1.69)*	(3.61)***	(3.40)***	(1.52)	(2.13)**	
Panel B: Approval System period: 2001–2007											
First regression analysis											
	0.3656	0.5028		0.8135	0.1619	−0.5159	0.2279	0.4495	0.3061	0.6166	0.301
		(2.20)**		(2.67)***	(1.03)	(−2.30)**	(1.11)	(1.97)*	(1.13)	(2.17)**	
Second regression analysis											
(20)	1.1500		−0.9888	−0.5154	0.0250	−0.4918	0.2870	0.5878	0.2306	0.0750	0.325
			(−2.06)**	(−2.21)**	(0.30)	(−1.93)*	(2.02)**	(2.45)**	(1.51)	(0.33)	

2.2.4 Case study and analyses of long-term returns for IPOs

2.2.4.1 Long-term returns for IPOs

Table 2.9 shows average long-term returns for IPOs adjusted for pair companies 36 months after listing. On the left of Panel A, the three-year BHAR (−6.96 per cent) is significantly negative (t -stat = −3.32) at the 1 per cent level. This means that under the old system, long-term IPO returns are lower than their pair companies. When the CAR approach adjusted for pair companies is applied, pronounced long-term underperformance disappears. As shown on the right of Panel A, three-year CAR (−1.40 per cent) is not significant (t -stat = −1.61). Panel B also shows disparities in long-term IPO returns under the new system. These research results show that emerging markets confirm the views of Fama (1998) – specific samples or markets alone cannot explain the sensitivity of observed values of long-term return selection methods. Additionally, the underperformance identified in this research is less severe and less significant than previous studies (Chen et al., 2000; Chan et al., 2004; Cai et al., 2008). For instance, Cai et al.(2008) studied 335 IPOs on the SSE between 1997 and 2001. The average three-year BHAR and CAR adjusted for market index were respectively −29.57 per cent (t -stat=15.27) and −24.97 per cent (t -stat=10.89). Such differences are presumably caused by different benchmarks – Cai et. al.(2008) used the SSE index or the SZSE index as benchmarks. Contrasting results imply that using pair companies as benchmarks may be better.

Table 2.9: Long-term performance of IPO companies

Event Time	BHARs					CARs			
	N	$BHR_{i,t}$	$BHR_{m,t}$	$BHAR_t$	$t_{sa}(BHAR_t)$	AR_t	$t(AR_t)$	CAR_T	$t(CAR_T)$
Panel A: Quota Management period: 1992–2000									
3	832	1.870	1.872	−0.002	(−0.03)	−0.186	(−1.23)	−0.737	(−1.12)
6	832	8.590	8.631	−0.040	(−0.14)	−0.096	(−1.11)	−0.877	(−1.36)
9	832	13.808	13.957	−0.149	(−0.21)	0.085	(1.02)	−0.716	(−1.25)
12 (1 year)	832	17.175	17.605	−0.430	(−0.59)	0.001	(0.01)	−0.732	(−1.29)
15	832	18.676	19.683	−1.007	(−1.11)	0.021	(0.32)	−0.703	(−1.11)
18	832	23.184	25.239	−2.055	(−1.59)	−0.023	(−0.36)	−0.796	(−1.25)
21	832	28.439	31.800	−3.361	(−1.94)	−0.058	(−0.80)	−0.996	(−1.32)
24 (2 years)	832	32.452	36.630	−4.178	(−2.28)	0.014	(0.23)	−0.988	(−1.30)
27	832	36.289	41.116	−4.827	(−2.31)	0.090	(0.89)	−0.897	(−1.41)
30	832	38.925	44.346	−5.421	(−2.54)	−0.002	(−0.01)	−0.924	(−1.45)
33	832	48.206	54.491	−6.284	(−3.01)	−0.079	(−0.89)	−1.201	(−1.56)
36 (3 years)	832	59.576	66.534	−6.958	(−3.32)	−0.052	(−0.56)	−1.395	(−1.61)
Panel B: Approval System period: 2001–2007									
3	519	−2.543	−2.506	−0.037	(−0.05)	−0.031	(−1.23)	−0.910	(−1.21)
6	519	−0.610	−0.142	−0.468	(−0.51)	−0.053	(−0.56)	−1.277	(−1.32)
9	519	−2.210	−1.067	−1.144	(−0.96)	−0.032	(−0.32)	−1.409	(−1.45)
12 (1year)	519	−4.489	−3.005	−1.484	(−1.25)	0.019	(0.24)	−1.338	(−1.36)
15	519	−6.356	−4.352	−2.004	(−1.78)	−0.139	(−1.36)	−1.496	(−1.41)
18	519	−12.463	−9.644	−2.819	(−1.98)	−0.273	(−2.20)	−1.947	(−1.65)
21	519	−17.412	−13.891	−3.522	(−2.23)	0.123	(1.09)	−1.660	(−1.69)
24 (2 years)	519	−15.301	−10.936	−4.365	(−2.54)	0.034	(0.35)	−1.604	(−1.41)
27	519	−9.107	−4.430	−4.677	(−3.01)	0.019	(0.25)	−1.400	(−1.25)
30	519	6.025	10.539	−4.514	(−3.11)	0.264	(2.23)	−0.938	(−0.89)
33	519	27.590	31.363	−3.773	(−2.98)	0.034	(−0.41)	−0.837	(−0.78)
36 (3 years)	519	49.467	51.910	−2.443	(−2.69)	0.092	(−0.85)	−0.679	(−0.69)

2.2.4.2 Analysis of long-term IPO returns with two reputation variables

When studying samples from old- and new-system groups, all IPOs are divided into low-reputation (whose REP1 in the lowest 30 per cent), medium-reputation (REP1 in the middle 40 per cent) and high-reputation groups (REP1 in the highest 30 per cent). As shown in Table 2.10, during the old system period, the average three-year BHAR of each group is near to the full-sample BHAR median. Contrasts

between every two of the BHARs of these three groups are not significant in either parametric or non-parametric tests. It is also found that during the new-system period, and for each group, there is a monotonic positive correlation between IPOs and REP1: The average BHARs for low-reputation, medium-reputation and high-reputation groups are respectively -8.07 per cent, -3.16 per cent and 3.65 per cent. Contrasts between every two of the BHARs of the three groups are significant in parametric and non-parametric tests: The average BHARs of the high-reputation and low-reputation groups hold significant disparities at the 1 per cent level (t -stat = 3.69; Kruskal–Wallis $\chi^2 = 24.45$). Grouping by REP2 yields consistent results and is not listed here to avoid repetition.

Table 2.10: Multivariate analysis of long-term IPO performance

	Quota Management period: 1992–2000				Approval System period: 2001–2007			
	N	Mean	Median	St. Dev.	N	Mean	Median	St. Dev.
Low REP1 30 per cent	241	−6.86	−5.69	24.56	143	−8.07	−8.72	32.18
Median REP1 40 per cent	321	−7.03	−5.47	23.41	191	−3.16	−3.45	25.54
High REP1 30 per cent	241	−6.97	−6.31	22.19	143	4.15	3.65	26.36
All	832	−6.96	−5.36	21.58	519	−2.44	−3.25	24.65
	<i>t</i>-stat		χ^2		<i>t</i>-stat		χ^2	
Low vs. Median	(0.96)		(1.74)		(2.96)***		(21.65)***	
Median vs. High	(0.28)		(0.63)		(3.14)***		(22.69)***	
Low vs. High	(0.69)		(1.50)		(3.69)***		(24.45)***	

2.2.4.3 Result analysis of cross-section OLS regression

The results shown in Panel A of Table 2.11 are based on the full sample from both the SSE and SZSE with REP1 and REP2 as proxy variables for underwriter reputation. The results show that, during the old-system period, coefficients for REP1 and REP2 are not significant (see regression models (21) and (22)). However, during the new-system period, coefficients for REP1 and REP2 are significantly positive (see regression models (23) and (24)), which is consistent with the results in Table 2.10. To exclude the

influence of exchanges on listed companies, samples on the SSE are used to conduct a duplication check. The results in Panel B are found to be similar to those in Panel A.

To test the robustness of these results, the 3-year average BHAR adjusted for pair companies is used as a dependent variable. This test confirms the results: The conclusions drawn by using LNBHAR are unchanged. Also, samples without the 23 abnormal values are used to repeat all tests in Table 2.11; the conclusions likewise hold. To exclude deviations or errors in the regression analysis caused by the endogeneity of the reputation variable, this research adopts a two-stage OLS (similar to the approach applied in Table 2.8), which again confirms the conclusions.

Table 2.11: Crosstab regression analysis of long-term IPO performance

	Intercept	REP1	REP2	LnSIZE	SEO	FLOAT	STD	MARKET	TECH	LnLAG	Adj. R ²
Panel A: Full sample											
Quota management period: 1992–2000											
(21)	2.3602	0.0170		−0.0146	0.0267	0.0931	−0.3365	0.0300	0.0120	−0.0154	0.053
		(0.57)		(−2.40)**	(3.56)***	(2.27)**	(−1.37)	(0.89)	(1.48)	(−2.11)**	
(22)	2.3336		0.0163	−0.0145	0.0270	0.0906	−0.3273	0.0306	0.0098	−0.0157	0.162
			(0.55)	(−2.39)**	(3.59)***	(2.20)**	(−1.14)	(0.91)	(1.21)	(−2.14)**	
Approval System period: 2001–2007											
(23)	2.1635	0.1035		−0.0070	0.0155	0.0218	−0.2667	0.1053	0.0146	−0.0049	0.153
		(2.29)**		(−1.30)	(1.83)*	(0.31)	(−0.75)	(1.93)*	(1.32)	(−0.39)	
(24)	2.1485		0.0869	−0.0069	0.0156	0.0186	−0.2762	0.1052	0.0155	−0.0053	0.160
			(2.14)**	(−1.30)	(1.83)*	(0.27)	(−0.82)	(1.94)*	(1.35)	(−0.42)	
Panel B: IPOs samples on SSE											
Quota management period: 1992–2000											
(25)	2.3572	0.0233		−0.0119	0.0235	0.0810	−0.2332	0.0181	0.0053	−0.0147	0.044
		(0.58)		(−1.97)**	(2.77)***	(1.83)*	(−0.99)	(0.33)	(0.44)	(−1.82)*	
(26)	2.3368		0.0218	−0.0108	0.0237	0.0798	−0.2109	0.0184	0.0057	−0.0150	0.133
			(0.52)	(−1.95)*	(2.79)***	(1.80)*	(−0.91)	(0.34)	(0.48)	(−1.71)*	
Approval System period: 2001–2007											
(27)	2.1556	0.0978		−0.0062	0.0182	0.0290	−0.2143	0.0715	0.0142	−0.0050	0.141
		(1.97)**		(−0.88)	(1.72)*	(0.33)	(−0.89)	(1.65)*	(1.36)	(−0.55)	
(28)	2.1432		0.0988	−0.0063	0.0180	0.0388	−0.2144	0.0788	0.0146	−0.0051	0.141
			(2.06)**	(−0.89)	(1.72)*	(0.44)	(−0.89)	(1.79)*	(1.38)	(−0.59)	

2.2.4.4 Long-term IPO return based on Calendar Time

In the case of the Event Time approach, t -statistics create dependence among cross sections. To solve this problem, the Calendar Time returns for IPOs are tested by t -statistics using the time sequence of samples. First, for each month from January 1994 to December 2008, an investment portfolio is constructed that covers listings in the previous 36 months. Then, the monthly returns of each IPO investment portfolio are calculated and adjusted for the market-cap weighted SSE and SZSE or stock indexes. Table 2.12 shows abnormal monthly average returns in every calendar year. At the 10 per cent level, abnormal monthly average returns are slightly significant: -0.89 per cent (t -stat = 1.87) under the old system and -0.22 per cent (t -stat = -1.95) under the new system.

Table 2.12: Abnormal rates of return to IPO portfolios based on Calendar Time

Calendar Year r	Full Sample	Proxy Variable of Underwriter Reputation (REP1)		
		Low	High	High –low
1994	–2.294	–2.385	–2.203	0.183
1995	1.288	1.309	1.268	–0.041
1996	0.330	0.319	0.340	0.021
1997	–2.159	–2.335	–1.982	0.353
1998	1.317	1.453	1.181	–0.272
1999	0.063	0.032	0.095	0.063
2000	0.042	0.074	0.011	–0.064
2001	–1.325	–1.335	–1.314	0.021
2002	–1.226	–1.442	–1.011	0.430
2003	–1.224	–1.333	–1.116	0.217
2004	0.949	0.567	1.331	0.764
2005	–1.154	–1.252	–1.055	0.198
2006	0.697	0.531	0.863	0.332
2007	2.261	2.105	2.417	0.312
2008	–1.211	–1.424	–0.998	0.426
Quota management period: 1994–2000	–0.894	–0.874	–0.746	0.128
t -stat	(–1.87)*	(–1.89)*	(–1.48)	(0.41)
Approval System period: 2001–2008	–0.218	–0.361	0.124	0.485
t -stat	(–1.95)*	(–2.86)**	(0.69)	(3.21)***

Secondly, the Fama and French (1993) three-factor model and the Carhart (1997) four-factor model are used to test the significance of the long-term returns. Weights of each month for OLS are the same, so if the number of IPOs in investment portfolios is correlated, then over-performance or underperformance will be reduced (Gompers and Lerner, 2003). To solve this problem, regression is done with a weighted least squares (WLS) method, where the weight of the observed value is the square root of the number of IPOs in an investment portfolio. According to Table 2.13, the intercepts of the new and old system do not

depart from zero significantly, showing that IPOs do not show significant abnormal rates of return with the Calendar Time approach. This is consistent with previous research done by Ritter and Welch (2002).

To verify the conclusions reached by using Event Time, Calendar Time is used to test their robustness. All IPOs are divided into low-reputation and high-reputation groups, based on their median REP1. The last column of Table 2.12 shows that, during the old-system period, the monthly average abnormal returns of portfolios in the low-REP1 and high-REP1 groups do not hold significant differences. However, during the new-system period at the 1 per cent level, the monthly average abnormal return of the high-REP1 group is significantly higher than that of the low-REP1 group, with the latter standing at 0.49 per cent (t -stat = 3.21).

Table 2.13: Multi-factor WLS regression of IPO portfolios

			Proxy Variable for Underwriter Reputation (REP1)		
			Low	High	High –low
Panel A: Fama and French (1993) 3-factor model					
Quota management period: 1992–2000					
Intercept	Coefficient	–0.0016	–0.0020	–0.0017	0.0002
	t -stat	(–1.06)	(–1.44)	(–1.24)	(–0.05)
$R_{m,t} - R_{f,t}$	Coefficient	0.5736	0.5298	0.5076	–0.0222
	t -stat	(3.87)***	(3.82)***	(3.85)***	(–0.27)
SMB	Coefficient	1.3809	1.4735	1.4172	–0.0563
	t -stat	(2.99)***	(2.33)**	(2.22)**	(–1.33)
HML	Coefficient	–0.3841	–0.4313	–0.4657	–0.0344
	t -stat	(–0.86)	(–0.77)	(–0.76)	(–0.20)
$Adj. R^2$		0.291	0.286	0.282	0.129
Approval System period: 2001–2007					
Intercept	Coefficient	–0.0018	–0.0023	0.0009	0.0032
	t -stat	(–1.19)	(–1.54)	(–0.72)	(2.64)***
$R_{m,t} - R_{f,t}$	Coefficient	0.6061	0.6370	0.6486	0.0116
	t -stat	(4.02)***	(3.67)***	(3.76)***	(0.06)
SMB	Coefficient	1.5604	1.6342	1.4886	–0.1456
	t -stat	(2.86)***	(2.33)**	(2.46)**	(–0.77)
HML	Coefficient	–0.4119	–0.3732	–0.4479	–0.0747
	t -stat	(–1.06)	(–0.81)	(–0.85)	(–0.59)
$Adj. R^2$		0.300	0.297	0.300	0.112
Panel B: Carhart (1997) 4-factor model					
Quota management period: 1992–2000					
Intercept	Coefficient	–0.0015	–0.0016	–0.0015	0.0001
	t -stat	((–1.49)	(–1.27)	(–1.24)	(–0.03)
$R_{m,t} - R_{f,t}$	Coefficient	0.6418	0.6526	0.6513	–0.0012
	t -stat	(4.32)***	(4.27)***	(4.29)***	(–0.25)
SMB	Coefficient	1.4853	1.4902	1.3938	–0.0964
	t -stat	(2.78)***	(2.49)**	(2.21)**	(–1.21)
HML	Coefficient	–0.4060	–0.4148	–0.4546	–0.0399
	t -stat	(–0.81)	(–0.81)	(–0.79)	(–0.32)
MOM	Coefficient	0.3754	0.3814	0.3671	–0.0142
	t -stat	(–0.95)	(–0.97)	(–0.86)	(–0.41)

<i>Adj. R²</i>		0.311	0.259	0.318	0.117
Approval System period: 2001–2007					
Intercept	Coefficient	–0.0017	–0.0021	0.0008	0.0029
	<i>t</i> -stat	(–1.70)	(–1.82)	(–0.67)	(2.56)***
$R_{m,t} - R_{f,t}$	Coefficient	0.7324	0.6328	0.5744	–0.0584
	<i>t</i> -stat	(4.01)***	(3.91)***	(3.83)***	(–0.58)
SMB	Coefficient	1.5376	1.5503	1.5235	–0.0269
	<i>t</i> -stat	(2.65)**	(2.14)**	(2.73)***	(–1.02)
HML	Coefficient	–0.3518	–0.4059	–0.4312	–0.0253
	<i>t</i> -stat	(–0.86)	(–0.63)	(–0.71)	(–0.27)
MOM	Coefficient	0.3829	0.3738	0.3506	–0.0233
	<i>t</i> -stat	(–1.02)	(–1.09)	(–0.97)	(–0.69)
<i>Adj. R²</i>		0.304	0.283	0.242	0.098

Regression analyses of the high-REP1, low-REP1 and high-low REP1 portfolios are conducted with the Fama and French (1993) three-factor model and Carhart's (1997) four-factor model. As can be seen in Table 2.13, during the old-system period, the intercept of the high-low REP1 group is not statistically significant (t -stat = –0.05), but it is significant at the 1 per cent level during the new-system period (t -stat = 2.64). Generally speaking, during the new-system period, underwriter reputation exerts significant positive influence on the IPO long-term returns. This result is robust under the regression test based on groupings by median REP1.

2.2.5 Conclusions

This study has analyzed 1,351 IPOs in China's stock market in the old- and new-system periods (1992–2000 and 2001–7) to examine the influence of underwriters on IPO price performance. The comparative market share of each securities firm and the number of IPOs underwritten are used to measure underwriter reputation. Conclusions are as follows. (1) During the old-system period, underwriter reputation exerted positive influence on IPO underpricing, but during the new-system period, the influence was negative. (2) During the old-system period, underwriter reputation had no influence on the long-term performance of IPOs, but during the new-system period, there were significant positive influences. These results not only provide valuable empirical findings for research centered upon emerging markets, they are also of great value for investors and decision-makers. Reform of the IPO system in China leaves more freedom and initiative for underwriters, mitigates high underpricing, and boosts long-term IPO performance. Indeed, the conclusion that underwriter reputation under the new system positively impacts long-term IPO performance holds special meaning for those investment banks who are interested in investing in China's capital market but lack knowledge of China's listing market.⁴

⁴ In November 2002, China Securities Regulatory Commission and People's Bank of China rolled out the Qualified Foreign Institutional Investors (QFII) to prepare China's capital market for foreign capital

Though BHARs for the full sample are negative (meaning that investors who hold Chinese IPOs long-term may suffer losses), investments in IPOs underwritten by prestigious underwriters are subject to slimmer changes in losses. Various potentially confounding factors do not change this conclusion: The influence of stock exchanges is eliminated through using solely IPO samples on the SSE; extreme values are excluded to rule out the influence of abnormal values; a two-stage OLS model controls endogenous problems. Under these circumstances, the results remain robust.

2.3 Regulation of IPO information disclosure

2.3.1 Regulatory systems guiding information disclosure of listed companies in China

2.3.1.1 Basic principles for information disclosure of listed companies

The basic principles for information disclosure of listed companies are specific regulations that include mandatory requirements and restraints dealing with the content, form and time of information disclosures. These principles are yardsticks for the obligations of listed companies regarding information disclosure. Throughout the development of securities markets around the world, basic principles guiding information disclosure of listed companies should, at minimum, cover authenticity, adequacy, accuracy, promptness and fairness.

(1) Authenticity

Authenticity requires subjects of information disclosure duties to provide information objectively with no intentional interference from investors and to uphold the fairness of investment decisions based on authentic investment judgments. It requires that objective facts or judgments and opinions based on facts be the basis of decisions and condemns any false record.

Disclosed information can be divided according to its nature into several categories: Descriptive information, evaluative information and predictive information. Accordingly, in law, there is descriptive authenticity, evaluative authenticity and predictive authenticity. Descriptive information reflects facts. The authenticity of descriptive information pertains to whether it refers to facts and whether information disclosed by the responsible subject is objective and consistent. Evaluative information is any analysis or valuation of the nature, result or influence of facts. It postulates a correlation between facts revealed by disclosed information and other facts. Evaluative authenticity is truth in logic. To verify evaluative authenticity, facts reflected by descriptive information must first be identified. Then the veracity of their evaluation, as well as the rationality of the evaluation methods, are judged. The safe harbor rule – set up by the United States Securities and Exchange Commission (SEC) – is a feasible method to test the authenticity of predictive information. The rule requires that the profitability forecasts disclosed by

flow. By January 2008, 52 foreign institutions have gained QFII licenses of 50 million to 800 million US dollars. A total of about 10 billion US dollars have been allowed into China's capital market.

issuers must be honest and rational. If the matter of facts is not as predicted, and issuers are proven to have violated the principle of honesty, then they must be held accountable.

(2) Adequacy

Adequacy means that all information that may greatly influence investors' decision-making must be disclosed, even when it is not explicitly stipulated in regulations or contracts. Listed companies must disclose all relevant information adequately, completely and fairly; no major omissions or concealments are allowed. Adequate disclosure includes completeness, significance and certain reserved rights and privacy.

Completeness means that materials provided to investors for judging the value of securities must be recorded in statutory documents and published. There must be no intentional concealment, deficiency or major omissions. Completeness asks companies to disclose all information.

The Financial Accounting Standards Board of the United States (FASB) establishes the definition of 'significance': Based on the surrounding environments, if omissions or misstatement of accounting information may change or influence a rational person's judgment, then the information is deemed significant. According to the International Accounting Standards Committee (IASC), 'if omissions or mistakes in materials could influence the economic decisions of users who act upon financial statements, then such materials are of significance'. Completeness and significance are contradictory, but mutually conducive; both are indispensable for effective disclosure. Incomplete information may mislead investors; intentional concealments and major omissions are no different from falsification. However, irrelevant (that is insignificant) information adds no value to applications; disclosure costs are heightened without any benefit. What is worse, insignificant information adds 'noise' to the complex information environment of stock markets.

Certain reserved rights and privacy mean that, under some circumstances, even though information is significant, if immediate disclosure may bring about detrimental and irreparable losses to the disclosing party, then such information can be concealed or be subject to partial disclosure. According to the *Provisional Regulations on Administration of Share Issuance and Trading*, information in the following circumstances can be immune from disclosure: 1) Business secrets protected by laws and regulations and prescribed to not be subject to disclosure; 2) Non-public information and documents obtained by the CSRC during investigations of illegalities; 3) Other information and documents that are stipulated to be free from disclosure in relevant laws and regulations.

(3) Accuracy

Accuracy means that, when disclosing information, listed companies must express statements precisely, and the content and means of expression must not be misleading. Thus the accuracy principle is also known as 'content legibility'. Statements deemed to conflict with the accuracy principle are termed by law as 'misleading'. So the accuracy principle does not emphasize consistency between disclosed

information and facts reflected by it. Rather, it emphasizes a consistent understanding of the same information between the disclosing party and information recipients (as well as between recipients themselves). Accuracy calls for objectivity; it forbids overstatement or misleading statements.

To apply the accuracy principle, standards for understanding or interpreting the content of information disclosed must be established. If laws explicitly state the standards (such as accounting standards) for information disclosure, listed companies must disclose information in accordance with these standards. If there are no such legal standards, listed companies must disclose information according to the common meanings of language and words. Understanding and the interpretation of disclosed content must be based on the qualities of common investors.

(4) Promptness

Promptness means listed companies do not delay legal information disclosure and that the delivery of public materials lies within legal time limits. This principle emphasizes that disclosed information is the most up-to-date. That is to say, promptness aims to shorten the time between information creation and release, so as to prevent insider trading or market manipulation.

There are several requirements for promptness. First, regular disclosure reports must be drafted and released within legal time limits. Second, disclosures must be made within the legally stipulated time in cases of temporary and unforeseeable major events. Third, if disclosed information is no longer authentic, accurate or complete due to objective factors, then timely revision, correction and/or clarification must be made.

Prompt disclosure of relevant information enables investors to make rational investment decisions based on the latest information. In this way, losses caused by information failures can be avoided, the amounts involved in insider trading can be reduced, time frames for insider trading are squeezed, and in general insider trading is curbed.

(5) Fairness

Fairness means that important information is disclosed to all market parties so that all investors enjoy equal access and opportunity to gain information of the same quality and quantity.

The *Regulation Fair Disclosure* promulgated by the SEC in 2000 requires that, when a company discloses non-public information to market professionals or shareholders who may use the information to trade, it must disclose equally detailed information to the public. General information accessible for investors is a combination of information about the company. It may come from information intermediaries, be formed by investors based on public information, or be inferred from market prices. Despite information sources, investors are entitled to share equal rights with professional investment institutions in gaining information.

According to the *Administrative Measures on Information Disclosure by Listed Companies* promulgated by the CSRC, listed companies and relevant responsible parties of information disclosure

must disclose information to all investors at the same time so that all investors receive the information equally. Listed companies that issue shares or derivatives on both domestic and overseas markets must disclose information at the same time on both the domestic market and foreign markets. Listed companies and relevant responsible parties must not use press conferences or question-and-answer sessions to replace reports and announcements.

2.3.1.2 Legal framework of information disclosure for listed companies in China

Since the inception of China's securities market, the country has been working on an information disclosure system. Now a multi-dimensional and multi-level legal framework for information disclosure by listed companies has taken initial shape. The *Securities Law* serves as the framework's basis, with normative documents such as administrative laws, regulations, and department rules serving as supplements. The first level of the legal framework is basic laws – primarily the *Securities Law*, *Company Law* and provisions in the *Criminal Law*. The second level is composed of administrative laws and regulations, including the *Provisional Regulations on Administration of Share Issuance and Trading*, *Regulations on Foreign Capital Stocks Listed in China by Joint-stock Companies*, and so on. The third level involves department rules, including the following:

- *Administrative Regulations on Information Disclosure by Listed Companies*
- *Administrative Regulations on IPO Issuance and Listing*
- *Rules for the Compilation and Submission of Information Disclosure by Companies That Offer Securities to the Public*
- *Rules for the Content and Format of Information Disclosure by Companies That Offer Securities to the Public [No.1]*
- *Prospectus Rules for the Content and Format of Information Disclosure by Companies That Offer Securities to the Public [No.9]*
- *Application Documents for IPO and Listing*
- *Opinions on Issues Concerning Further Enhancing Quality of Financial Information Disclosure by IPO Companies.*

The fourth level entails self-regulatory rules, such as the Rules Governing the Listing of Stocks on Shanghai Stock Exchange, Guidelines for Report Formats, Memorandum on Information Disclosure and other notices and guidelines drafted by the SSE and SZSE. With these laws and regulations, China has established a system for information disclosure, specified relevant standards, and guaranteed implementation of the system by law.

2.3.1.3 Legal Liabilities of information disclosure for listed companies in China

(1) Administrative responsibilities

(i) Securities law

Article 193: Issuers, when listed companies or other subjects with a duty of disclosure fail to disclose information as stipulated, or information disclosed by them contains false records, misleading statements or major omissions, must be instructed to correct the information, be warned, and be made subject to penalties ranging from CNY300,000 to CNY600,000. Persons in direct charge and others directly responsible must be warned and subject to penalties ranging from CNY30,000 to CNY300,000.

When issuers, listed companies or other subjects with a duty to disclose fail to submit a relevant report, or the submitted report contains false records, misleading statements or major omissions, they must be instructed to correct the information, be warned and be made subject to penalties ranging from CNY300,000 to CNY600,000. Persons in direct charge and other persons directly responsible must be warned and be made subject to penalties ranging from CNY30,000 to CNY300,000.

When issuers, listed companies or controlling shareholders or actual controllers of other subjects with a duty to disclose violate provisions in the above two paragraphs, punishments and penalties must be dealt out as prescribed in said paragraphs.

(ii) Administrative regulations on IPO issuance and listing

Article 64: In the following circumstances, punishments will be meted out in accordance with the *Securities Law*, and the CSRC will suspend approval and reject issuance applications filed by the issuers in the following 36 months: When issuance documents submitted by issuers to the CSRC contain false records, misleading statements or major omissions; when issuers that fail to meet conditions for issuance defraud issuance approvals through deception; when issuers interfere by improper means in approval by the CSRC and the Issuance Review Committee under it; when signatures or stamps of issuers or directors, supervisors or senior management staff are forged or altered.

(iii) Administrative regulations on information disclosure by listed companies

Article 59: When subjects with a duty to disclose or their directors, supervisors, senior management staff, or shareholders, actual controller, buyer, director, supervisor or senior management staff of listed companies violate provisions of the *Regulations*, the CSRC may take the following regulatory measures: 1) Communicating instructions to correct violations; 2) regulatory talks; 3) issuing warning letters; 4) recording illegalities and failure to honor public commitments on credit, filing them, and releasing them; 5) categorizing the relevant parties as inappropriate candidates; 6) other regulatory measures.

Article 61: When subjects with a duty to disclose fail to fulfill their obligations of information disclosure within the stipulated time limits, or disclosed information contains false records, misleading statements or major omissions, they must be punished by the CSRC in accordance with Article 193 in the *Securities Law*.

Article 63: When listed companies conceal correlations or use other means to evade information disclosure or the obligations of submitting reports, they must be punished by the CSRC in accordance with Article 193 in the *Securities Law*.

Article 69: When listed companies and other subjects with a duty to disclose violate provisions in these *Regulations* and the circumstances are grave, the CSRC may inhibit access to market for the involved person in charge.

(2) Civil liability

(i) Securities law

Article 69: When a prospectus, corporate bond financing procedures, financial and accounting reports, listing reports, annual reports, interim reports, provisional reports and other information disclosure materials of issuers or listed companies contain false records, misleading statements or major omissions and losses are incurred on investors in securities transactions, issuers and listed companies must shoulder the responsibility of compensation. Except for those that can prove themselves in absence of fault, directors, supervisors, senior management staff and other persons in direct charge of issuers and listed companies, and their sponsors and underwriters, must assume joint and several liabilities. Controlling shareholders or actual controllers of issuers or listed companies in fault must assume joint and several liabilities together with issuers and listed companies.

(ii) Several rules of the Supreme People's Court on civil compensation incurred by false statements in the securities markets

When subjects with a duty to disclose violate provisions of securities laws and make false records or misleading statements in the course of securities issuance or transactions, or when disclosed information contains major omissions, or when illegal information disclosure occurs, investors in the securities market may file a suit for civil compensation to the people's courts, on grounds that the subjects in question violated laws and made false statements that incurred losses.

(3) Criminal liabilities

(i) Criminal law

Article 161: When companies and enterprises that are legally liable to disclose information release false information to shareholders and the public, or conceal major facts in financial and accounting reports, or disclose information out of compliance with laws and regulations, if the interests of shareholders and others are harmed or there are other grave circumstances, persons in direct charge and other directly responsible persons must be sentenced to less than three years in prison or sentenced to penal servitude, and/or subject to penalties ranging from CNY20,000 to CNY200,000.

2.3.2 Problems of regulation of IPO information disclosure

Currently in China, the regulators of IPO information disclosure are mainly the CSRC, the SSE, the SZSE and the China Institute of Certified Public Accountants (CICPA). They have different duties and authority. The CSRC enjoys the most power and authority among them. Exchanges like the SSE and SZSE are the frontline of regulation, but their power is limited. CICPA impose indirect supervision and regulation on IPO information disclosure through supervision and regulation of accounting firms.

In recent years, illegal IPO information disclosures have been rampant, despite strict prohibitions. Cases like those of Yunnan Greenland Biological Technology Co., Ltd and Wanfu Biotechnology show an increasing trend. Problems in regulating IPO information disclosure mainly include three aspects.

2.3.2.1 Punishments meted out to fraudulent listings are too light

In May 2013, the CSRC wrote ‘the strictest ticket in regulatory history’ to Wanfu Biotechnology and involved intermediaries that were charged with fraudulent listing. Wanfu Biotechnology was instructed to correct the illegalities, warned, and fined CNY300,000; Gong Yongfu – chairman of the board of directors – was warned and fined CNY300,000; Yan Pinggui and another 18 senior managers were warned and fined in three grades: CNY250,000, CNY100,000 and CNY50,000. In addition, Gong Yongfu and Tan Xuejun were forbidden from accessing the securities market for life. Fraudulent listings conducted and false records fabricated by Gong Yongfu and Tan Xuejun were suspected as criminal acts, so they were transferred to public security authorities to be prosecuted as such.

During the listing of Wanfu Biotechnology, three intermediaries – the sponsor Ping An Securities, the audit body Zhonglei Accounting Firm and Boao Law Firm, and relevant persons in charge, failed to discharge their duties. Materials presented by them contained false records. The CSRC issued warnings to Ping An Securities and confiscated CNY25.55 million in business income gained from the listing of Wanfu. Penalties of two times the income were meted out, and its sponsor certification was suspended for three months. The CSRC fined Wu Wenhao and He Tao – sponsor representatives of Wanfu programs – CNY300,000 each. Their certifications as sponsor representatives and securities practice qualifications were revoked, and they were forbidden from accessing the securities market for life. Xue Rongnian, Zeng Niansheng – persons in charge of sponsoring – and Cui Ling – the person in charge of internal audits – were fined CNY300,000 each and their securities practice qualifications were revoked. The co-sponsor of Wanfu’s listing was warned and fined CNY100,000; his securities practice qualification was also revoked. CNY1.38 million in business income gained by Zhonglei Law Firm was confiscated, a fine of two times the income was meted out, and the firm’s certificate of securities services was revoked. Wang Yue and Huang Guohua – accountants who signed off on the listing programs and materials – were fined CNY100,000 and CNY130,000, respectively. They were further forbidden from accessing the securities market for life. Zou Hongwen, another accountant who signed, was warned and fined CNY30,000.

Compared with the punishments in the case of Yunnan Greenland Biological Technology Company, the CSRC intensified the gravity and scope of punishments in the Wanfu case. Previously, Greenland Biological Technology Company had inflated assets and business incomes, causing a sensation at the time. The CSRC meted out the following punishments: Greenland Biological Technology Company was instructed to correct its mistakes, warned, and fined CNY600,000. He Xuekui – the former chairman of the board – and Jiang Kaixi – incumbent director and chief financial officer (CFO) – were both banned from the securities market for life. Incumbent chairman of the board of directors Zhao Hongquan, directors Hu Hong, Li Gang, Zhong Jiafu, Pu Le, Luo Xiaoyin and Tan Huanzhu, incumbent general manager Mao Zhiming and Xu Yunkui, and incumbent vice general manager Chen Desheng were warned and fined CNY300,000 each. Independent director Zheng Yaguang was warned and fined CNY100,000.

The CSRC also planned to hand out administrative punishments to intermediaries of United Securities, Sichuan Tianchengmen Law Firm and Shenzhen Pengcheng Accounting Firm. The securities service certificate of Shenzhen Pengcheng Accounting Firm was revoked; persons responsible were subject to administrative penalties and banned from the securities market for life; certifications for sponsor representatives and securities practice held by the involved sponsor representatives were revoked.

The Intermediate People's Court of Kunming made the following statements in the first trial of the Greenland case: The Greenland Company was affirmed to have committed crimes of fraudulent issuance of shares, forging finance tickets and deliberately destroying accounting documents, and was fined CNY10.4 million; He Xuekui was sentenced to ten years in prison; Jiang Kaixi, Pang Mingxing, Zhao Haili and Zhao Haiyan were also sentenced to imprisonment, ranging from 27 months to six years and penalties.

Such punishments are too mild compared with the Securities and Futures Commission of Hong Kong's (SFC) handling of the Hontex case. Hontex International was listed on the main board of the Hong Kong Stock Exchange (HKSE) on 24 December 2009. It was suspended on 30 March 2010 due to charges from the HKSE of major falsified or misleading data in its prospectus. As the sole book runner, lead agent and sponsor of Hontex International on the HKSE, Mega Capital Asia was forbidden to provide opinions to financial institutions, fined HKD42 million and its license was revoked. The HKSE has also noted that banks or other institutions that serve as sponsors must be subject to criminal liabilities if their prospectus contains untrue statements.

2.3.2.2 Absence of a civil compensation mechanism in case of fraudulent listings

A civil compensation mechanism forces violators to compensate for losses inflicted upon investors. It can not only deprive violators of illegal gains, but also forcibly impose a massive economic burden on them. The accountability provided by civil compensation also motivates investors to engage in their own monitoring. In developed markets, the most intimidating downside to fraud is not criminal litigations or administrative punishments, but rather civil action filed by minority shareholders claiming civil compensations.

Taking Hong Kong's securities market as an example, the HKSFSC cracks down hard on fraudulent listings, pledging zero tolerance towards them. The Hontex International case is vivid evidence of this commitment. On 24 December 2009, Hontex International listed on the HKSE at HKD2.15 per share and raised HKD1.075 billion. But the SFC found out through investigations that reported business volume, pre-tax earnings and cash data were not consistent with facts. Turnover was inflated by over CNY2 billion, profits by CNY600 million, and there were several instances of false or exaggerated statements in its prospectus. In 2008, when the international financial crisis kicked in, the gross profit margin of Hontex International stood far higher than that of its peers, and it completed listing with broken statements. On application by the SFC, Justice Harris of the Court of First Instance of Hong Kong's High Court ordered Hontex International to propose buy-back to investors who offered to buy Hontex shares or those who bought Hontex shares on the secondary market. The price of the buy-back was set at HKD2.06 per share – the closing price of Hontex upon suspension. The court ordered Hontex International to deposit HKD198 million to the court within 28 days and to hold a shareholders' meeting to adopt a resolution for Hontex International to buy back distributed or sold shares from about 7,700 public shareholders. In this way, Hontex International paid in total HKD1.03, making up for its irresponsible behavior two years ago.

In some senses, China's current securities civil compensation mechanism is not favorable for investor lawsuits. There are preconditions for suing companies involved in forgery: Courts must issue judgment papers for a criminal sentence or the CSRC and Ministry of Finance must issue written decision of administrative penalty to affirm the company's crime of falsifying reports. In fact, few such judgments are made by courts, so only scores of companies have been punished. Most companies engaged in forgery face direct, public condemnation by exchanges. Many companies are condemned, but investors are unable to file lawsuits. Even though cases are put on file, investors face a chance of failure. Even when plaintiffs win the lawsuit, they cannot secure full compensation. Compensation of 40 per cent to 50 per cent of actual losses are already deemed as the best-case in such cases.

The case of fraudulent listing involving Hongguang Electronic Industry was settled through conciliation, and only a few investors received compensation. In 1997, China's securities market witnessed the sensational 'Hongguang Incident'. To issue new shares and raise funds, Hongguang Industry fabricated profits, understated losses and concealed major items to swindle listing qualification checks. As a result, investors were cheated and suffered losses in the year of listing. With the release of an earnings report featuring huge losses and disclosure of Hongguang's fraudulent cheating, Hongguang's shares on the secondary market slumped dramatically, inflicting great losses on investors. In December 1998, a female investor in Shanghai filed civil litigation in the People's Court of Pudong New District in Shanghai, suing all directors and senior managers of Hongguang Industry and intermediaries for frauds. This was the first civil litigation claiming compensation in China's securities market. After that, many investors joined the litigation on the grounds that they had been cheated by Hongguang's false statements, made poor investment decisions and suffered great losses. The strenuous journey of this trail-blazing class

action suit lasted for years. As China's judicial system did not cover civil compensations in securities cases, claims made by the plaintiff investors were determined to be inadmissible or rejected successively by the People's Court of Pudong New District in Shanghai, the No.1 Intermediate People's Court of Shanghai and the People's Court of Chenghua District in Chengdu. Reasons presented by these courts were: There was no certain causal relationship between losses of plaintiffs and violations by the defendant. On 15 January 2002, the Supreme People's Court promulgated the *Circular on Relevant Issues Concerning Accepting Civil Tort Cases Incurred by False Statements in Securities Market*, providing judicial interpretations for accepting false-statement lawsuits filed by shareholders. According to the *Circular*, investors may sue listed companies that have been punished by the CSRC due to false information disclosure and make compensation claims. The *Circular* restarted the Hongguang lawsuit filed by investors, and courts finally accepted litigation submitted by 11 investors. In 2002, the Hongguang case was settled by the Intermediate People's Court of Chengdu through conciliation. 'ST Hongguang' and Guotai Junan Securities were required to pay the plaintiff investors 90 per cent of the amount in dispute (at a rate of 1:8), totaling CNY224,096.

The civil compensation lawsuit against Daqing Lianyi Oil and Chemical Industrial Company went through a very different process: The initial complaint was rejected, there were no trials after acceptance, no judgments made after the trials and no sentences imposed. The number of plaintiffs and the amount of compensation were also lower than those in the Hongguang case. Factoring in lost lawsuits and withdrawal of lawsuits, the final compensation may only reach 10 to 20 per cent of the original losses. Daqing Lianyi was listed on the SSE in 1997. Due to false statements in its prospectus released on 26 April 1997, in March 2000, the CSRC meted out punishments to Daqing Lianyi. On 29 March 2002, the day before expiration of the prescribed period for litigation, legal teams in Beijing and Shanghai representing 679 investors submitted indictments to the Intermediate People's Court of Harbin in the form of a class action suit. But as there were no explicit clauses in the relevant laws, the court insisted that lawyers file lawsuits separately or it would not put the suits on file. If the cases were put on file separately, 679 investors had to pay litigation fees of more than CNY600,000. This left the lawsuits in limbo. Attorneys and the court did not reach any agreement for ten months. On 9 January 2003, the Supreme People's Court promulgated the *Regulations on Hearing Civil Compensation Cases Incurred by False Statements in the Securities Market*. Attorneys reselected plaintiffs that were qualified to file lawsuits according to the *Regulations* and reevaluated the losses of investors with new calculation methods. On 27 January 2003, attorneys went to Harbin and submitted the first class action civil indictment representing 107 plaintiffs; the court put it on file immediately. On 17 February 2003, the second class action civil indictment representing 274 plaintiffs was submitted and accepted on the spot. Before long, the court required attorneys to divide the two class action suits into smaller ones with 15 to 20 plaintiffs each. This meant attorneys had to do their work all over again. Due to an overwhelming workload, the difficulty of implementing and lack of legal basis, attorneys refused to separate the actions. Six months passed without agreement on how to proceed. However, on 18 and 19 September 2003, the

two class actions were finally put to trial. On 20 August 2004, the Intermediate People's Court of Harbin made judgments in the first instance. According to the court, Daqing Lianyi made false statements by way of fraudulent listing, inflating profits and other means, and investors were inflicted with actual losses by buying shares, selling or holding shares after the day the statements were disclosed (or corrected). The court determined that Daqing Lianyi must pay compensation: 459 shareholders must receive compensation worth over CNY8 million. As the sponsor for Daqing Lianyi, Shenyin Wanguo Securities failed to discharge its review duties and it had to bear liability for paying compensation for investors' losses. After the trial of the first suit, Daqing Lianyi, Shenyin Wanguo Securities and five investors refused to accept the judgments as final and appealed to the High People's Court of Heilongjiang Province. On 21 December 2004, the court in the second instance ruled that 464 plaintiffs in the Daqing Lianyi case must receive compensation worth CNY8.836 million, and that the underwriter Shenyin Wanguo must pay CNY6.086 million. Not until June 2005 were the first compensation payments delivered to 55 investors. On 1 February 2007, the five year case was finally closed.

The Greenland case was deemed an example of fraudulent listing in China's capital market. The criminal trial was full of twists and turns, so civil compensation is now still in the stage of prosecution. In March 2011, attorneys in Beijing, Shanghai, Chengdu and Hebei offered to be agents for investors whose interests had been harmed in order to claim civil compensation from Greenland Company and its former director of the board He Xuekui. On 2 December 2011, the People's Court of Guandu District in Kunming, Yunnan handed down criminal sentences to the defendants. The court determined that the defendants had committed the crime of fraudulent share issuance and sentenced the Greenland Company to pay a fine of CNY4 million and He Xuekui to three years imprisonment with a three-year reprieve. No defendants appealed and the sentences took effect. After this trial, some investors started to seek civil compensations. On 31 January 2012, the Prosecutors' Office of Kunming protested against the verdict to the Intermediate People's Court of Kunming, claiming that the verdict was in error and that the punishments handed down by the court of first instance were too light, and that the court must determine that defendants and Greenland Company had committed crimes of illegal disclosure of major information. On 29 March, the Intermediate Court of Kunming made its verdict, and the ruling made by the People's Court of Guandu District was repealed. The case was returned to the court of first instance for retrial. Consequently, the civil compensation case was suspended. After that, the Intermediate People's Court of Kunming filed criminal lawsuits directly to the Intermediate People's Court of Kunming, charging Greenland Company, He Xuekui and other persons accountable for fraudulent share issuance, illegal information disclosure, forging financial papers and intentionally destroying accounting documents. On 7 February 2013, the Intermediate People's Court of Kunming made the judgments of first instance. The court determined that Greenland Company, having committed crimes of fraudulent share issuance, forging financial papers and intentionally destroying accounting documents, was to be fined CNY10.4 million. He Xuekui was sentenced to ten years imprisonment, with other penalties. Jiang Kaixi, Pang Mingxing, Zhao Haili and Zhao Haiyan were sentenced to imprisonment ranging from 27 months to

six years. During the legally prescribed period for appeal, five defendants, including He Xuekui, appealed to the High People's Court of Yunnan Province. On 3 April 2013, the court made ruling of a criminal action, which rejected the appeal and affirmed the original judgment. The ruling then went into effect. Only at this point were plaintiffs in the Greenland civil compensation case officially compensated.

2.3.2.3 Ineffective delisting regime

The HKSE announced on 19 September 2013 that Hontex International should publish a delisting notice on 19 September, and be delisted on the 23rd (three and a half years after it was suspended due to frauds). According to the SFC, Hontex International's prospectus released in December 2010 contained materially false or misleading data. By contrast, Greenland Company, though also suspected of misrepresentation, will not be delisted from the SZSE, based on the existing delisting regime.

The SSE published its *Regulations on Chi-next Listing* on 20 April 2012. This document requires that companies whose financial statements contain prior period errors or false records, and whose net assets by the end of the latest year are negative after retrospective adjustment of the previous annual financial statements, should be suspended. Companies whose financial statements contain prior period errors or false records, and whose net assets by the end of the latest two years are negative after retrospective adjustment of the previous annual financial statements, should be terminated. These delisting provisions, however, are not effective enough to delist a company that goes public by cheating. The listed companies have made significant net assets out of the high offering price, and their net assets will remain anything but negative, even after retrospective adjustment. Therefore a fraudulent company can avoid being delisted, because its net assets are not negative. Take Greenland Company, for example. When the company was listed in December 2007, it was sold at CNY16.49 per share and its net asset value was as high as CNY7.39 per share. Even after its false reporting was exposed in 2009, its net asset value was CNY3.67 per share. Following the provisions on delisting from the Chi-next, Greenland will not be delisted. It is the same with the biological technology company, Wanfu.

2.3.3 Measures of enhancing regulation on information disclosure

2.3.3.1 Increasing penalties

Article 189 of the *Securities Law* provides that an issuer that fails to meet the requirements for issuing securities, but gains the approval by cheating, where it has not issued the securities, should be fined not less than CNY300,000 but not more than CNY600,000. Where it has issued the securities, it should be fined not less than one percent but not more than five percent of the raised funds. Persons that are in direct charge and that are directly responsible should be fined not less than CNY30,000 but not more than CNY300,000. Where the illegal act provided in the preceding paragraph is instigated by the issuer's controlling shareholders and actual controllers, the controlling shareholders and actual controllers should be fined according to the preceding paragraph. The listed Wanfu was punished in accordance with the penalties in the above provisions, which are too light. Article 161 of the *Criminal Law* provides that directly responsible persons who are guilty of fraudulent listing should be imprisoned for not more than

three years or detained and fined not less than CNY20,000 but not more than CNY200,000, or both. Still, the punishment is not severe enough.

By contrast, the US's *Securities Act* and *Securities Exchange Act* provide much harsher punishments for issuers and listed companies that violate rules on information disclosure. Section 17 (a) of the 1933 *Securities Act* makes it unlawful for any person in the offer or sale of any securities (1) to make untrue statements of a material fact; (2) to make misleading statements by omitting a material fact; (3) to engage in any activity that operates as a fraud by the use of any means; and (4) to engage in any activity that would operate as a fraud. Section 10 (b) of the 1934 *Securities Exchange Act* prohibits any use of manipulative and deceptive devices defined by the SEC in the offer or sale of any securities, and provides that any violation creates criminal, administrative and civil liabilities. The *Federal Securities Act* states that any listed company that willfully violates the registration or anti-fraud terms of this title, commits a crime. Section 24 of the 1933 *Securities Act* provides that any person who willfully violates any of the provisions of this title, or the rules and regulations promulgated by the Commission under authority thereof, or any person who willfully, in a registration statement filed under this title, makes any untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein not misleading, must upon conviction be fined not more than USD\$10,000 or imprisoned not more than five years, or both. Section 32 of the 1934 *Securities Exchange Act* provides that any person that makes false or misleading statements in any application, report, or document required to be filed under this act, or the rules and regulations promulgated under the authority of the act, commits a crime. It also provides a maximum sentence of ten years, a maximum fine of \$1,000,000 for a natural person and \$2,500,000 for a non-natural person. The sentence and fines can be imposed concurrently.

China should learn from the US if it is to revise its securities regulations and stiffen administrative punishments, increasing the proportion and amount of the fines and the severity of the criminal punishment, for example. This would finally deter those having the intent to violate the laws.

2.3.3.2 Improving civil compensation regime

If the person that makes false statements is held responsible for tort claims, we will be able to not only reinforce investors' legitimate rights and their confidence in the securities market, but also regulate the offer and sale of securities and the functioning of the market itself. However, China's *Securities Law* does not provide for compensation for civil liability, therefore companies that go public by defrauding investors usually receive administrative penalties, and the victimized investors receive no compensation. What is worse, the investors' loss will be aggravated because penalties imposed on the listed company will incur economic costs and cause the shares to decline. Three measures can be taken to improve the compensation regime.

First, the judicial process should be amended. The current judicial process for seeking civil compensation is obviously fraught with defects. First, the people's court only hears civil cases of

securities frauds caused by misrepresentation, and establishes a procedural prerequisite that the act of misrepresentation should be determined by competent authorities. Second, a class action regime is absent, but in the US and UK such lawsuits make up the majority of the civil cases involving securities frauds. Third, a system of public interest litigation, like a securities investor fund, is needed to protect investors. Fourth, the current process provides for a general definition on frauds, but this does not answer the new problem in the market. Fifth, general rules on what constitutes a civil liability and how to calculate losses are lacking. The *Securities Law* should stipulate the necessity of granting reasonable compensation to the investors that suffer losses from frauds, how to hear civil cases of securities frauds, how to classify and define frauds, who bears the burden of proof, what constitutes civil liability, how to calculate losses, as well as other requirements for class action and public interest litigation.

Second, civil compensation should take priority over criminal punishment. The purpose of prioritizing civil compensation is to uphold market fairness through economic remedies. The aim of civil compensation is to correct the economic relations distorted by wrongdoings through compensating the victim's losses directly, while criminal punishment has the different aim of punishing and preventing crimes. From the perspective of securities market regulation, investor protection is more critical than criminal punishment and prevention. From the perspective of regulators, ascertaining criminal liability means a heavier burden of proof, more investigation inputs, and a lower likelihood of winning a case, because standards of proof for criminal action are much higher than those of civil action. A mature securities market will prioritize civil compensation over criminal punishment. Compensating the victimized investor is more important than imposing criminal punishment on the responsible person, and implementing civil compensation is a de facto penalty for the wrongdoing.

The characteristics of China's securities market demands long time periods before victimized investors are compensated. However, investors would be able to receive the maximum justice if they were compensated in a fair and fast manner within the legal framework. Lessons can be learned from the case of Wanfu Biological Technology Company making false financial statements, which produced China's first compensation plan for victims of fraudulent listing. Ping'an Securities, the promoter of Wanfu's IPO, established a special fund of CNY300 million to compensate the eligible investors who suffered investment losses from Wanfu's misrepresentation, and recovered losses from the parties bearing major and joint responsibilities for Wanfu's misrepresentation through legal channels.

Third, a system of compulsory suspension should be established, which will pave the way for investors to seek civil compensation. At the very start of the probe of Hontex International, the SFC ordered a suspension of trading for the company's shares. This was a sound decision, for the following reasons. First, the share price was locked in, which avoided dramatic price fluctuations as a result of the probe, and further losses for investors. Second, the sale was locked in, which prevented the directors and others that are responsible for the misrepresentation from seeking undue profit by selling the stocks via alternative channels (after learning that the company is under investigation by regulators). Third, the repo was locked in, which facilitated the determination and processing of future repos and civil compensation

claims, because the suspension came shortly after Hontex went public, when the investors subscribed to or bought the shares mainly based on the prospectus. Thus the causality between Hontex's misrepresentation and investors' losses was simple and clear.

What stands in sharp contrast with the Hontex International case is that of the Greenland Company. The regulator launched its official investigation into Greenland in March 2010, and published a notice that the chairman of the company, He Xuekui, was arrested in March 2011. After that, Greenland's share price fell dramatically, when the controlling shareholder, He Xuekui, managed to conduct stock securitization and transfer. There were doubts in the market that the declining share price incurred losses for the investors, but this enabled He Xuekui, who had primary responsibility for fraudulent listing, to make hundreds of millions through stock transfer. The root cause is that the *Securities Law* does not grant the regulator the power of imposing a suspension, or establish an advance security mechanism. In practice, besides the technical suspension imposed by the exchange during a natural disaster and technical failure, a company may suspend trading of its shares on a voluntary basis. In the case of Greenland, if the company did not suspend the trading, the regulator could do nothing. China should introduce Hong Kong's *Rules on Securities and Futures*, empowering regulators to order the exchange to suspend the trading of any listed company's shares.

2.3.3.3 Improving the delisting regime

If a fraudulent company is not delisted, it will reap higher profits than the costs of the wrongdoing. Take Wanfu Biological Technology Company, for example. Based on its prospectus, Wanfu, called Xianglu Wanfu LLC then, with the investment by its actual controllers Gong Yongfu and Yang Ronghua before 2008, had a registered capital of CNY20 million. Later, with a series of fraudulent activities, it was sold as high as CNY25 per share when it went public on 14 September 2011. By that time, Gong Yongfu and Yang Ronghua together held 40,190,000 shares of Wanfu and had a combined wealth of CNY1.005 billion. However, Gong Yongfu was only fined CNY300,000, 1/3333 of his wealth. Now the couple has promised to undertake their compensation liability in accordance with the law, and put up 30,000,000 shares of Wanfu in the China Securities Investor Fund as collateral for compensation. Before the compensation fund was established, Ping'an Securities may have made careful calculations, and decided that CNY300 million be the ceiling for compensation. At the current share price of Wanfu (CNY5.65), CNY300 million is worth 53,100,000 shares. Even after paying the compensation, Gong Yongfu and Yang Ronghua, who now have 80,380,000 shares in hand, will still have 27,280,000 shares worth CNY154 million. Thus they will make a profit 6.7 times their initial investment ((154 million – 20 million) ÷ 20 million). Although Gong Yongfu has been arrested by the police and may be sentenced to prison, when he is freed in several years he will still be the actual controller of a listed company, still richer than a millionaire.

Under the current circumstances, a system of delisting a fraudulent company should be established as soon as possible. The current delisting system should be improved, the relevant legal

framework be amended, and fraudulent companies be removed from the market. With an ineffective delisting system, a bad-performing company will only deteriorate and the investors will be exposed to greater risks.

Appendix I: Sector Distribution of the 1351 Enterprises Listed in China: 1992–2007

Appendix I is the sector distribution of the 1,351 enterprises listed in Shanghai and Shenzhen Stock Exchanges between 1992 and 2007, of which 816 are manufacturing enterprises. The appendix is made according to the sector distribution standards developed by the CSRC in 2006. IR is adjusted for the A-share market index on the basis of the difference between the offering price and the closing price on the first day of IPO, and expressed in percentage. Issuing Size is calculated using the CPI in 2005, which was 100, and the exchange rate between the RMB and USD on 31 December 2005, which was 1: 8.07. It is expressed in million yuan. According to the table, by IR, the 83 hi-tech enterprises performed significantly better than the other 1,268 enterprises at the level of 5 per cent (t -stat = 2.15; Kruskal–Wallis $\chi^2 = 4.93$), and by issuing size, the hi-tech companies also performed significantly better than the others at the level of 1 per cent (t -stat = 3.23; Kruskal–Wallis $\chi^2 = 13.21$).

Sector	Whole Sample			Shanghai Stock Exchange			Shenzhen Stock Exchange		
	N	IR	Issuing Size	N	IR	Issuing Size	N	IR	Issuing Size
A: Agriculture, forestry, animal husbandry and fishery	36	121.49	13,943.06	23	109.14	9,324.75	13	143.33	4,618.32
B: Mining	32	102.48	174,706.80	23	92.53	167,395.37	9	127.91	7,311.43
C: Manufacturing	816	162.21	323,983.07	428	186.41	186,460.46	388	135.51	137,522.61
C0: Food & Beverages	61	143.43	24,283.98	35	128.55	15,594.43	26	163.47	8,689.55
C1: Textiles, Clothing & Fur	60	122.90	20,476.59	33	125.33	12,985.00	27	119.92	7,491.60
C2: Wood & Furniture	3	54.74	1,223.44	2	67.54	1,014.28	1	29.13	209.16
C3: Paper & Printing	30	132.09	13,012.80	15	170.11	4,939.30	15	94.08	8,073.50
C4: Petroleum, Chemical & Plastic	152	189.84	51,891.13	76	252.67	27,347.04	76	127.01	24,544.10
C5: Electronics	55	150.60	22,393.31	20	141.99	6,940.31	35	155.52	15,453.01
C6: Metal & Nonmetal	128	115.53	78,945.26	69	114.37	54,311.22	59	116.90	24,634.04
C7: Machinery, Equipment & Instruments	222	166.37	79,097.27	119	181.58	42,110.76	103	148.79	36,986.51
C8: Pharmaceuticals & Biological Products	87	195.14	26,651.52	51	236.38	18,325.28	36	136.71	8,326.24
C99: Other Manufacturing Sectors	18	348.49	6,007.76	8	608.04	2,892.84	10	140.85	3,114.91
D: Producer & Supplier of Electricity, Gas & Water	53	125.63	37,221.73	34	131.83	29,604.31	19	114.53	7,617.42
E: Building	35	122.32	35,986.50	22	92.51	31,604.29	13	172.79	4,382.21
F: Transportation & Warehousing	54	91.37	101,704.14	44	96.54	94,973.79	10	68.64	6,730.35
G: IT	83	212.80	37,394.58	47	231.44	27,600.01	36	188.47	9,794.57
H: Wholesale & Retail Trades	79	251.36	17,960.13	58	271.56	13,154.80	21	195.59	4,805.33
I: Finance and Insurance	21	129.53	310,716.68	18	102.57	306,535.85	3	291.26	4,180.84
J: Real Estate	38	213.88	16,805.48	23	290.96	11,505.60	15	95.69	5,299.88
K: Social Service Provider	45	273.22	17,158.13	18	419.65	9,193.02	27	175.60	7,965.11
L: Communication & Cultural Industries	7	780.01	2,795.66	6	891.84	2,304.80	1	109.06	490.86
M: Miscellaneous	52	251.11	9,072.92	31	297.32	5,418.94	21	182.89	3,653.98
Hi-tech Enterprises	83	212.80	37,394.58	47	231.44	27,600.01	36	188.47	9,794.57
Non hi-tech Enterprises	1,268	171.46	1,062,054.31	728	194.50	867,475.98	540	140.38	194,578.33
Total	1,351	174.00	1,099,448.88	775	196.74	895,075.98	576	143.39	204,372.90

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