Government Regulation, Enforcement, and Economic Consequences in a Transition Economy: Empirical Evidence from Chinese Listed Companies Implementing the Split Share Structure Reform*

Dequan Jiang[a], Shangkun Liang[a] and Donghua Chen[a],**

[a] *Research Institute of Accounting and Finance, Nanjing University, China*

Abstract

In a changing transition economy, Chinese government regulations that adopt the relatively simple bright line rule formula are enforceable in practice. Taking the early reform-oriented policies of the China Securities Regulatory Commission (CSRC) as an example, we find that the CSRC did not consider local enthusiasm for reform when allocating IPO resources because of the high enforcement costs involved. We also find that CSRC listed company regulations were enforced due to the lower costs involved in verifying regulatory violations, and that listed companies that completed the reform process were given priority in public refinancing. We present empirical evidence supporting the theoretical basis for the hypotheses outlined above. We also conclude that companies that completed the reform process in 2005 were of significantly higher quality and that the SEO regulation did not affect stock market efficiency. These findings enhance our understanding of the efficiency of government regulation in a transition economy.

* This paper is supported by the National Natural Science Fund (grant no. 70602011) and the National Social Science Fund (grant no. 08CJY009).We also appreciate the support we have received from the IAPHD Project of Nanjing University, the Institution of Accounting and Finance of Shanghai University of Finance and Economics, Research Project 985 of the Institution of Economic Transition and Development of Nanjing University, and the discussion at the 2008 summer seminar of City University of Hong Kong. We give our special thanks to Charles Jieping Chen, Xijia Su, Shimin Chen, Bin Ke, Oliver Zhen Li, Xiongsheng Yang, Yuetang Wang, Zengquan Li, Liansheng Wu, Xi Wu, and Xing Xiao for their valuable comments and advice. We thank the anonymous referees for their constructive suggestions.

** Corresponding author. E-mail address: sufechen@263.net. Correspondence address: Research Institute of Accounting and Finance, Nanjing University, Nanjing, China, 210093.

JEL classification: G32; G38; G15

Keywords: Government regulation; Enforcement; Economic consequences; Split Share Structure Reform (SSSR)

1. Introduction

In a modern market economy, government influence extends to almost all areas of social life. Government can not only influence a market economy through financial, monetary, and other forms of macro-policies, but also lay down the rules of the game in the field of micro-enterprise development by such means as economic regulations. In economics, the state intervention principle of the "market defect theory" posits that government intervention has certain inevitability about it. A well-functioning market mechanism can put social resources to the most effective use. However, there is a need to give the market mechanism itself room to function in an orderly, competitive environment to ensure the economic efficiency of the system in which it operates. If the market mechanism has an inherent weakness that prevents it from establishing or maintaining the systemic environment in which it operates at a low cost, this indicates the presence of a market defect. If the market is operated according to laissez-faire principles, it will lead to unfairness or inefficiency. The government public welfare person hypothesis postulates that government represents the public interest and that government regulations are made in response to a public need. The genesis of regulations lies not only in imperfect competition, the non-equilibrium status of market operations and market deficiency, but also includes the need to prevent and correct undesirable market outcomes. Glaeser and Shleifer (2003) found that in the second half of the 19th century, when the American society was in a tumultuous state, because the impartiality of the legal system could not be guaranteed, government regulation had to deal with the challenges of an ever-changing economic environment to have any real effect. It can be argued that regulation is more efficient than the judiciary system in that regulators have a stronger incentive than judges to identify and deal with violations.[1]

In a complex and changing environment, government performance is determined by politics, the economy, culture, and a number of other factors (La Porta *et al.*, 1998). The question then becomes whether government regulation can be effectively enforced.

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[1] Taking into account the economic development seen in China's transition to date, it may be necessary to strengthen government regulation from a structural perspective, but the loopholes and flipside of government regulation must be settled promptly (Sun, 2004). China, in its period of economic transition, must go through the process of "market failure – government regulation", and it is only after doing so that can establish a modern form of government regulation. Those who put forward ideas on future public policy for China should pay attention to the establishment of the government regulatory system, which is one of the public management system "modules," thus strengthening the government's control functions (Wang, 2004).

Glaeser and Shleifer (2001) formulated a relatively simple "clear rule" (the "bright line rule") that makes it possible to reduce implementation costs in the public and private spheres and that it is conducive to supervision by the regulatory agencies that set the rules. The "clear rules" used in many domains, such as in the legal system and in determining the legality of the actions of economic entities, are elaborate when viewed from the perspective of this rule (Glaeser and Shleifer, 2000). When the regulatory object is complex and "the clear rule" has not been followed, whether there are cost/benefit restraints, whether the regulators will enforce the regulation, or will do so at a discount, and whether the original intent of the regulator can be realized are all questions worthy of thorough investigation.

CSRC regulation over the course of the listed company SSSR process in China provides an excellent opportunity to test this theory[2]. The listed company SSSR process is a key step in the return to a stock market-based system and the optimization and advancement of a system originally intended to run along market lines; it is the result of the game equilibrium between the holders of tradable shares and non-tradable shares on issues such as separation reform plans and the correct market pricing. However, if the market is allowed to take the lead in setting its own parameters, the process is bound to be slow, which will affect the pace of capital market reform and development. Because there is unlikely to be special legislation passed for the SSSR, the CSRC will elect to use its regulatory and supervisory powers to incentivize listed companies to complete the reform at an early date. Senior CSRC officials have indicated on many occasions in public that policy support will be given to ensure an active share reform process; that CSRC attention will be focused on key areas and key enterprises to promote work undertaken to further the reform process; that regions should promote the SSSR process actively and implement preferential policies at the right time; and that for companies which have already completed the reform process different policies should be adopted to encourage them to use the capital market as a way of strengthening their operations.[3]

After distinguishing between the different levels of commitment made by the CSRC to individual regions and listed companies, we find it is harder to commit on a local basis. Not only is the cost of information processing for local regulations higher, but there is a lack of clear regulatory rules. Under such conditions, regardless of whether the

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[2] The split share structure refers to the existence of both tradable shares on the stock exchange and a large volume of non-tradable shares owned by the state and legally defined entities in the Chinese capital market. This was a peculiar solution developed in the course of transforming China's economic structure, and has led to flaws in the capital market in terms of a distorted pricing mechanism, resource allocation inefficiency, and the invalidation of market price as an innate factor promoting efficiency. The split share structure has limited the power of substantial shareholders who lack common interests as the basis for corporate governance. On the whole, the split share structure has been a major counterforce against the opening up and long-term development of the capital market.

[3] The press conference on "China's reform and development of capital markets," which was held by the Information Office of the State Council on 29 June 2005; The CSRC analyzed "two laws" at a video conference held on 31 December 2005 and a CSRC press conference about "the issuance of securities in listed company management (draft)" held on 16 April 2006.

CSRC maintains its commitment to regional reform, regions that implement the SSSR with more enthusiasm will get a greater share of IPO (initial public offering) resources. On the other hand, because the power of the CSRC to regulate listed companies is explicit, companies that complete the reform process at an early stage will be given priority to use SEOs (seasoned equity offerings). Implementing regulatory policy involves relatively low costs and is easy to fulfill. While previous studies have shown that regulation can easily lead to opportunistic behavior (Stigler and Friedland, 1962; Stigler, 1971; Chung, 2002; Chen, Ye and Chen, 2003), there are certain features of the SSSR, such as its short timeframe and high level of intensity, as well as the features of the corresponding regulatory policy such as its transience and high profile, that suggest the SSSR will not lead to opportunistic behavior among listed companies. These issues constitute the basis of our paper.

The rest of this paper is structured as follows. Section 2 examines the institutional background and extant literature, outlines the theoretical analysis, and sets out our research hypotheses. Section 3 describes our sample, variables, and descriptive statistics, and Section 4 establishes an empirical model used for empirical stability testing. We present our conclusions and the limitations of this study in Section 5.

2. Background, Literature Review, and Theoretical Analysis

The pattern of Chinese economic reform conforms to a government-directed model. This model has both advantages and disadvantages. On the one hand, because the Chinese government is superior to other social organizations due to its greater level of authority, it will take a relatively shorter period of time to move from the old system to a new one (Zhu *et al.*, 2005). However, in a country with a complex economic, cultural, and political background, the gap between expectation and reality is sometimes large. This phenomenon is often referred to as "the behavioral deviation" (Zhu *et al.*, 2005)[4]. The government often uses regulation to deal with this problem. Shleifer (2005) propose the enforcement theory, in which government regulation is simply the balance of the cost of government dictatorship and the cost of social dictatorship. Government regulation is vastly superior in controlling disorder. Regulators are more active in discovering violations, and are more difficult to bribe than judges. Pistor and Xu (2002) consider that regulators can be appointed from a pool of experts. Such regulators may be driven to achieve social objectives in certain domains and to regulate the stock market to

[4] According to the reasoning given, behavioral deviations can be divided into two types: transitional behavioral deviations and flawed behavioral deviations. The former type is caused by transitional policy. For example, in the initial period of economic reform, some managers used their powers to carry on arbitrage. Another example is the single big holder phenomenon arising due to the prohibition on trading state-owned shares and legal shares. Flawed behavioral deviations are caused by policy flaws or the lag in spiritual development in society, as seen in violations, broken promises, fraud, etc.

contribute to the realization of such goals. Glaeser and Shleifer (2001) pointed out that government quotas are more effective than tax controls in realizing policy objectives. Although quotas limit certain aspects of behavior, the low investigation costs involved can increase the effectiveness of policy and raise the efficiency of society as a whole.

In China, regulation also has advantages and disadvantages, and regulation brings certain costs. Regulatory agencies, in an effort to exchange their powers for economic benefits, prefer to expend their powers on economic affairs, increase the volume of administrative examination projects (Li, 2005). Government regulation is a common route to reform in China. In spite of some negative effects, government regulation also has positive effects (Wang, 2004[5]; Chen *et al.*, 2008). Few changes have been seen in the government regulatory system since the Chinese economic reforms were initiated in the late 1970s. Chinese government regulatory organizations have consistently had a set of both control powers and management powers, giving rise to the epithet "comprehensive regulatory agency." As one of the direct government agencies, the CRSC is not different in this respect (Mao, 2007). Due to its concerns over the potential stock market disorder, the CSRC has used quantitative controls to regulate the IPO market. From 1989 to 1998, the regulatory pattern was consistently one of "institutional approval"[6] (Chen *et al.*, 2008). However, the detailed ways in which this system has been applied have differed: in 1993-1995, the method applied was one of "overall quota controls, division of IPO opportunities"; in 1996-1998, a "total quota controls, limit on IPO applications" method was applied (Li, 2001). After 1998, the CSRC introduced an "examination committee," marking a transition from the "institutional approval" system to one of "institutional registration."[7] The CSRC no longer used a quantitative target in principle, but any unused quota could be used in following years. Although the CSRC officially introduced an "approval system" in March 2001, it was not implemented in an efficient manner. The CSRC has maintained consistent control over which companies are permitted to launch IPOs (Chen *et al.*, 2008).

The power of the CSRC to determine which companies can launch IPOs or SEOs may have had a great influence on the SSSR. Every year, when determining the amount

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5 Taking the US as an example, in the 1990s, remarkable progress was made in government regulations on science, technology, and environmental protection. On average, income resulting from government regulations on environmental protection was between $16,500-1,358,000 million, and income derived from highway regulations was between $25,400-45,700 million. The income derived from these two areas outweighed the costs involved.

6 Under the institutional approval model, if a company wished to apply for an IPO, it first had to seek permission from the regional government or management department of the company concerned, according to its administrative relationship. The company could then submit the application to the local securities control section. If the application was passed at this stage, it was submitted to the CSRC with a specific IPO amount indicated and the documents were officially prepared. In the last step, the CSRC issued its final examination opinion. If no problems were identified in the opinion, the IPO application was successful.

7 Under the institutional registration model, companies satisfying the standards specified in the Company Law and Securities Law can make IPO applications and do not require government approval. The CSRC decides whether the application is accepted according to applicable provisions.

of stock to be issued in the coming year, the CSRC, either openly or privately, is obliged to consider the issue of assigning IPO and SEO licenses to firms based in different locations. To the CSRC, exercising this power involves balancing local development concerns and following micro-level government policy. To regional governments, being awarded an IPO or SEO represents a major financing opportunity that can be used to assist local development. Local governments have an incentive to promote the SSSR process. As a result, to promote the SSSR, the CSRC must and may utilize its control right nimbly, shift its pressure, and defend its prestige (Chen *et al.*, 2008). In this way, the CSRC connects local government enthusiasm for the SSSR with the IPO and SEO resource allocation process. If listed companies drag their feet in implementing the SSSR, the CSRC is likely to reduce the number of IPO and SEO opportunities available in the region, and instead give opportunities to regions in which the SSSR is actively implemented. Government regulation comes in several main forms. It includes not only stable long-term policies, but also changeable temporary policies; it is not limited to prohibitive control, but also includes offering incentives (such as benefit pledges); and is not limited to support control, but also encompasses substitution control. In this paper, we view CSRC regulation as a temporary, changeable, incentivized, and substitutable form of control behavior.

The theoretical analysis presented above is consistent with CSRC policy. "Opinions of the CSRC, the National Capital Committee, the Ministry of Finance, the People's Bank, and the Department of Commercial Affairs about the SSSR" were issued on August 23, 2005. This document pointed out that all parts of the State Council Department should strengthen their cooperation with each other to give impetus to the SSSR and maintain the smooth development of the stock market. It also noted that local governments should make great use of their comprehensive resources and strengthen their leadership to promote the SSSR. Companies that have completed the SSSR process are first in line for an SEO. On April 16, 2006, a CSRC public relations spokesperson released policy guidance called "early reform, early profit" at a press conference on "IPO management method (basic plan)." The same spokesperson said that to alleviate the pressure resulting from concentrating financing activity on the stock market, companies would be unable to launch SEOs until six months after completing the SSSR process. In addition, IPOs would first be resumed in regions in which the market value of companies that had completed the SSSR process reached a certain proportion. Although there were certain differences between the CSRC's pledge and the traditional regulatory approach, the new requirements announced had a tangible influence on regions and companies alike. Regions and companies that displayed differing levels of enthusiasm were to be treated differently: regions in which SSSR tasks were completed quickly would be granted more IPO resources, and companies that completed the SSSR process at an early date would have a greater chance of securing SEOs. This type of control limits IPO and SEO activities, and at the same time oversees regions and companies in their SSSR activities and spurs them to speed up the SSSR process. In this sense, this form of regulatory control is no different to traditional regulation. What's more, this control can be seen as a form of "substitution control"[8]. It involves a substitution of, rather than support for, the market. The ultimate aim of the SSSR is to deliver an effective market mechanism that allows for long-term, smooth development of the stock market. However, if no active steps are taken and the market is left to develop of its own accord, it is likely to take a long time to develop. To quickly resolve the difficult issues which have been part of the Chinese stock market for several years, the CSRC has eventually used a non-market based method to "lure" companies.

In the SSSR context, the CSRC offers two forms of incentive: IPO incentives and SEO incentives, both of which are valuable to regional governments and companies. Companies given an IPO or SEO opportunity will receive a great deal of money to assist corporate development. If a company develops its business, it is likely to create more job opportunities in the area and will pay more tax to the regional government. For these reasons, IPO and SEO incentives are highly treasured by local governments and companies, making it necessary to prioritize active promotion of the SSSR. On the other hand, these two incentives are not the same, and each has its own distinctive characteristics. First, for IPO incentives, the applicable provisions are not explicit. Two reform attempts were made before the current SSSR, indicating that the market discovery function of the CSRC was inadequate[9].If there is a lack of simple, clear, and effective rules, and exclusive reliance on the rule that "the market value of companies [that have completed the SSSR process] has reached a certain proportion"[10], it is difficult for the CSRC to accurately assess the efforts made by a local government in implementing the SSSR[11]. On the other hand, it is also difficult to determine the yardsticks on which the CSRC is inclined to focus. Should it use the number of IPOs in a region, the amount of capital raised in IPOs, the IPO growth rate in comparison with the historical rate or with other areas, and solely IPO or SEO criteria, or both? This lack of clarity in regional regulation may affect the utilization of the SSSR and the realization of its goals. Second, the authentication and examination procedure for IPO authorization is complex and can be influenced by various factors. As a result of the differences in economic development across regions and differences in growth rates

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8 In practice, the CSRC has two different functions. First, the CSRC oversees the stock market. It must supervise the market to prevent the occurrence of illegal activities. This type of control can be seen as a form of "support control." Second, the CSRC is responsible for examining IPOs and SEOs. This type of control has been called "vicarious control" (Chen *et al.*, 2003).

9 The CSRC made two attempts to resolve the non-tradable share problem in 1999 and 2001, by rationing and selling state shares. However, neither of these two attempts was particularly successful. This problem has increasingly stymied the development of the stock market.

10 This standard is fuzzy and inaccurate, especially when one considers several companies with a huge market value. For example, CPCC (China Petroleum Chemical Corporation) accounts for 11.29% of the total market capitalization of listed companies. For this reason, it is clearly inappropriate to assess the SSSR speed of Beijing based on this standard alone. The CSRC may take into account the percentage of companies that have completed the SSSR process as a supplementary standard.

11 Hay *et al.* (1996) considered the simplification violation discovery procedure and suggested that Russia use "the clear rule" in its legal reforms.

across product and essential factor (such as financial factor) markets, companies allowed to have IPO may not be concentrate in regions that actively promote the SSSR process. High information processing costs are likely to prevent the CSRC from regulating the market effectively. For these reasons, in determining which companies can have an IPO and which companies are allowed to have IPOs first, it is difficult for the CSRC to rely predominantly on the proportion rule[12]. If the CRSC relaxes its IPO standards excessively to speed up the SSSR process, the costs resulting from low-quality IPOs may be large. Third, the IPO incentive is indirect. Through the IPO incentive, the CSRC first incentivizes local governments, which then encourage local companies to reform. An increase in the number of links in the system may result in lower efficiency and higher costs. If more companies are controlled by the central government rather than the local government, the situation may worsen and difficulties presented by regional incentives will increase. In comparison, the rules on SEO incentives are explicit. SEO incentives are targeted at listed companies. These companies are generally of higher quality, so the SEO examination procedure is simpler and faster. SEO incentives are more direct. It is easier for the CSRC both to appreciate the efforts made by companies in the SSSR process and to meet its commitment. The CSRC can give more active companies a greater likelihood of SEOs. In short, while IPO incentives are "point-to-face" incentives, SEO incentives are "point-to-point" incentives. To compare the two, "point-to-face" incentives are fuzzier, whereas "point-to-point" incentives are clearer. More difficulties and costs are involved in "point-to-face" incentives, whereas "point-to-point" incentives can help reduce policy carrying costs. With "point-to-face" incentives, because it is difficult for the CSRC to observe the efforts of local governments, it is difficult to reward them. In contrast, with "point-to-point" incentives, because it is easy for the CSRC to observe the efforts of companies, it is easy to reward them. Therefore, to achieve the objective of completing the SSSR process as quickly as possible, the probability of the CSRC realizing its SOE incentive pledge is greater.

Because the CSRC is a government department, the SSSR is founded on the government's credit. To maintain this credit, CSRC has introduced several measures designed to prevent potential opportunistic behavior among listed companies. The requirement that SSSR companies pay satisfactory compensation for tradable shares is one of these measures[13]. Under this measure, low-quality companies which speed up the SSSR process to increase their chances of being given IPO opportunities will be restrained.

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[12] Take Beijing as an example. On May 24, 2006, the number of companies that had completed the SSSR process was 68, representing 80.95% of all Beijing listed companies. This percentage was the 7th highest among all provinces (cities). However, if ranked according to the percentage of market value represented by companies that had completed the SSSR process, Beijing came in last. By market value, only 38.06% of its companies had completed the SSSR process.

[13] The compensation paid to tradable shareholders represents a large amount of money to the company. Generally speaking, high quality companies are in a position to pay a satisfactory amount of compensation at an earlier stage.

Based on the above theoretical analysis, and considering both IPO and SEO restarts[14], we predict that:

Hypothesis 1: *It is difficult for the CSRC to carry out regional reform effectively because of the high information processing and policy carrying costs involved.*

Regions active in the SSSR process may not receive extra IPO support from the CSRC. When the CSRC allocates IPOs, several important factors are likely to be taken into account. The first of these factors is the extent to which the region is economically developed and the degree of growth in the capital market. In areas that have experienced rapid economic development and a good degree of growth in the capital market, the quality of companies applying for IPOs may be better, and the number of companies meeting the requirements may be larger. The second factor is the number of listed companies in a region. To balance the pace of development across regions and promote undeveloped areas, the CSRC may give more IPO opportunities to these areas. The third factor influencing IPO allocation decisions may be where decision-making power resides. The CSRC may have less influence in areas that have a high level of political clout. These areas find it easy to obtain IPO allocations, even if they have not been active in promoting the SSSR.

Further, we predict that:

Hypothesis 2: *It is relatively straightforward for the CSRC to control the SEO process.*

Companies that actively implement the SSSR are likely to have a greater chance of an SEO. When the CSRC allocates SEOs, several other factors may be important. The first such factor is the level of compensation paid[15]. Good protection for tradable investors is an important safeguard of a smooth SSSR process. The current SSSR has an impact on the long-term development of China's stock market and is observed from the top level down. The current SSSR also represents an important political task to the CSRC. For this reason, while completing the share reform promptly, the CSRC must ensure the SSSR is carried out smoothly. All else being equal, the higher the compensation ratio paid by a company, the better the level of protection afforded to tradable investors. This last result is consistent with the CSRC's goal. This suggests that companies that pay a higher compensation ratio are more likely to be offered an SEO by the CSRC. The

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14 If the majority of companies complete the SSSR process, a time limit will be set. All IPO shares become tradable after this point in time.

15 Wu *et al.* (2008) found that the relation between institutional investor shareholdings and the compensation rate was negative. This suggests that institutional investors did not play a significant role in protecting small shareholders. Jin *et al.* (2005) and Chen *et al.* (2008) found that there were institutional investor and major shareholder conspiracies in the SSSR. As a result, the greater the number of shares held by institutional investors, the lower compensation rate would be.

second factor is company ownership. SOEs (state-owned enterprises) are owned by the government, one arm of which is the CSRC. As a result, SOEs may have a better chance of securing an SEO.

Our final prediction is as follows:

Hypothesis 3: *CSRC regulations on the SEO process may not reduce the efficiency of the stock market.*

The timeframe for the current SSSR is short and the level of intensity is high. In this brief, centralized policy change, it may be difficult for companies to take opportunistic countermeasures immediately. At the same time, the CSRC mechanism (the satisfactory compensation ratio policy) offers an additional guarantee of SEO company quality.

3. Sample and Data Description

3.1. Sample

The data come mainly from the CCER economic and financial research database of Peking University, with the remaining data collected manually. Following the official launch of the listed company share reform, IPOs and refinancing were suspended until June 19, 2006[16]. Our sample period runs from April 29, 2005 to June 18, 2006. A total of 985 observations for companies that have completed the share reform process are available.

We examine regional performance during the share reform process and the subsequent IPO resource gains made (over the period June 19, 2006 to December 31, 2007) to verify whether the CSRC honored its commitment. We also observe the distribution of companies for which the CSRC had rejected listing applications.

3.2. Data Description

The information shown in Table 1 includes the distribution of companies that have completed the share reform process (Share Reform), IPO resources (IPO), and companies that have had listing applications rejected (IPO-REJECT)[17].

[16] China CAMC Engineering (002051) was first listed on June 19, 2006 after re-opening of IPO. Beijing Hualian Hypermarket (600361) was first refinanced on May 18, 2006 after re-opening of SEO.

[17] Both IPO and IPO-REJECT include the review link for IPO applicants.

Table 1. Distributions of Share Reform, IPO, and IPO-REJECT

Panel A: Regional Distribution

	Share Reform		IPO		IPO-REJECT	
Region	**No.**	**Percentage**	**No.**	**Percentage**	**No.**	**Percentage**
Beijing	68	6.9	20	10.5	5	11.1
Tianjin	16	1.6	4	2.1	0	0
Hebei	27	2.7	2	1.1	1	2.2
Shanxi	20	2.0	2	1.1	1	2.2
Neimenggu	21	2.1	1	0.5	0	0
Liaoning	36	3.7	3	1.6	1	2.2
Jilin	18	1.8	1	0.5	1	2.2
Heilongjiang	12	1.2	0	0	0	0
Shanghai	116	11.8	11	5.8	0	0
Jiangsu	64	6.5	22	11.6	8	17.8
Zhejiang	68	6.9	29	15.3	4	8.9
Anhui	42	4.3	6	3.2	0	0
Fujian	27	2.7	7	3.7	0	0
Jiangxi	15	1.5	4	2.1	1	2.2
Shandong	54	5.5	13	6.8	2	4.4
Henan	28	2.8	5	2.6	2	4.4
Hubei	38	3.9	2	1.1	1	2.2
Hunan	24	2.4	5	2.6	2	4.4
Guangdong	117	11.9	35	18.4	10	22.2
Guangxi	14	1.4	3	1.6	1	2.2
Hainan	10	1.0	0	0	0	0
Chongqing	18	1.8	1	0.5	1	2.2
Sichuan	31	3.1	2	1.1	0	0
Guizhou	14	1.4	0	0	1	2.2
Yunnan	16	1.6	4	2.1	1	2.2
Xizang	4	0.4	0	0	0	0
Shaanxi	18	1.8	2	1.1	1	2.2
Gansu	11	1.1	2	1.1	0	0
Qinghai	5	0.5	1	0.5	0	0
Ningxia	9	0.9	0	0	0	0
Xinjiang	24	2.4	3	1.6	1	2.2
Total	985	100	190	100	45	100

Panel B: Time Distribution

	Share Reform		IPO		IPO-REJECT	
Time	**No.**	**Percentage**	**No.**	**Percentage**	**No.**	**Percentage**
2005	408	41.4	0	0	0	0
2006	577	58.6	65	34.2	11	24.4
2007	0	0	125	65.8	34	75.6
Total	985	100	190	100	45	100

Table 1 shows that a number of companies in economically developed areas such as Beijing, Shanghai, Jiangsu, Zhejiang, and Guangdong have completed the share reform process. On the one hand, these areas have more listed companies than others. On the other hand, the pace of economic development in these regions may have affected local enthusiasm and resulted in these companies being better prepared when required to implement the share reform. In addition, as cities that host stock exchanges, Shanghai and Guangdong may have been more enthusiastic about the share reform than other regions. We also find that these areas were allocated greater IPO resources.

From the time distribution perspective, we find that a greater number of listed companies implemented the share reform in 2006 than in the previous year. The CSRC regarded the share reform as its primary task in developing the capital market and strove to ensure that the reform was basically completed by the end of 2006. The number of companies that launched IPOs increased substantially in 2007. At the same time, more company applications were rejected because the CSRC did not relax the IPO eligibility criteria.

Table 2. Descriptive Statistics for Share Reform, IPO, and IPO-REJECT

	N	Min	Max	Median	Mean	Std.
Share Reform	31	4	117	21	31.77	28.05
IPO	31	0	35	3	6.13	8.63
IPO-REJECT	31	0	10	1	1.45	2.34

Table 2 shows that an average of about 32 companies around the country completed the reform each year and that there were significant regional differences. Fewer listed companies came from the central and western regions due to the relatively low level of economic development in these areas. In addition, because the CSRC prioritized the 11 key provinces (municipalities) in the course of the reform process, regional differences were unavoidable[18]. Each region had an average of 6 IPO companies. Due to the many factors involved, the geographical distribution of IPO resources was very uneven, ranging from 0 to 35 IPOs per region. Table 2 also shows that a maximum number of 10 applications were rejected in any one region.

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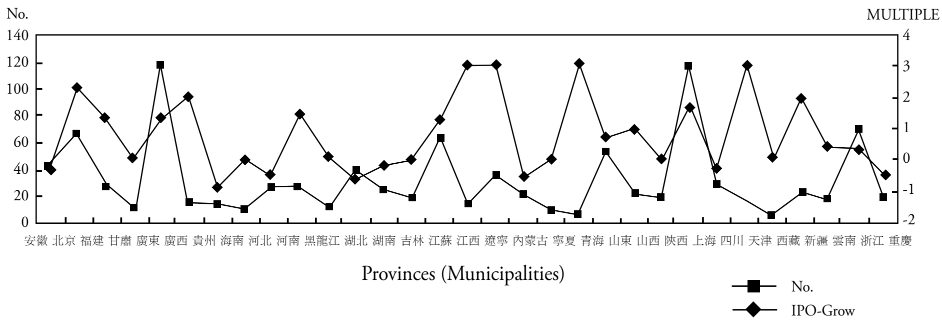
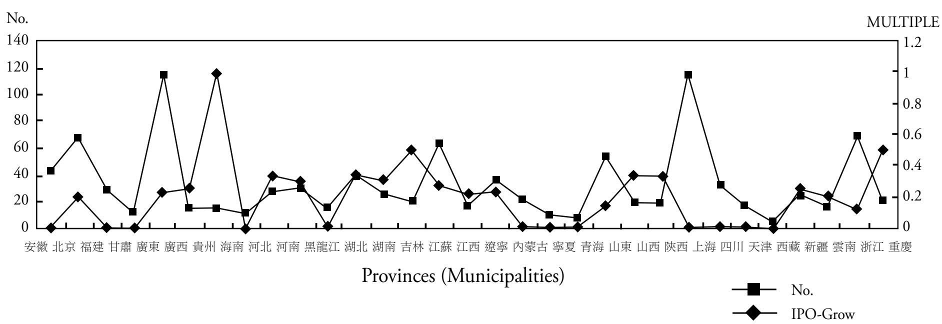
[18] On June 8, 2006, Shang Fulin, the CSRC Chairman, said that Chinese listed companies should strive to complete the reform before the end of the year and that the CSRC was bound to focus on the 11 key provinces (municipalities) to play a positive role in promoting economic growth in those areas.

Figure 1. Regional Distribution of IPO



Note: IPO_GROW = $(IPO_1 - IPO_0) / IPO_0$. To maintain consistency in our comparison, IPO_0 is calculated for the period (2004.01.01-2005.06.07). If IPO_0 is zero and IPO_1 is not zero, then the IPO_GROW is measured as the highest value in the country.

Figure 2. Regional Distribution of IPO_REJECT



Note: IPO_REJECT = Rejected IPO/ (Rejected IPO + IPO), and is calculated for the period (June 18, 2006-December 31, 2007). If both Rejected IPO and IPO are zero, then IPO_REJECT equals zero.

Figure 1 presents the number of companies in each region which implemented the reform and the IPO resources gained; on the whole, the trend is irrelevant. Although developed areas such as Guangdong and Jiangsu had greater access to IPO resources, their IPO growth was smaller. This indicates that the CSRC's IPO policy did not favor reform-active areas, which actually experienced a substantial reduction in IPOs in comparison with the previous period. Figure 2 reports the regional distribution of IPO rejections. The rejection rate for applications made from reform-active areas did not fall, and there was no trend in the opposite direction.

Table 3. Time Distribution of Share Reform and SEO

Time	Share Reform		SEO		
	No.	Percentage	No.	Percentage	Percentage2
2005	408	41.4	124	65.26	30.39
2006	577	58.6	66	34.74	11.43
Total	985	100	190	100	19.29

Table 3 shows that 985 listed companies had completed the share reform and 190 companies had been authorized to conduct an SEO by December 31, 2007. A higher proportion of companies (30%) that completed the reform process in 2005 obtained an SEO quota. In contrast, only 11% of the companies that completed the reform process in 2006 were authorized to launch SEOs. Re-opened refinancing gave the capital market an opportunity to release the pressure that had built up, with companies that implemented the share reform earlier being given priority.

The odds of being granted IPO or SEO resources are affected by many complicated factors. Taking all these factors into account would result in an extremely complex model. We therefore select a number of suitable variables that have crucial impacts on the issues we investigate. Table 4 gives the definitions for the main variables used in this paper.

Table 4. Definitions of Variables

Reform region variables	
REGION_ ENTH	Proportion of market value represented by companies that completed the reform by June 18, 2006
MARKET	Market index taken from "Chinese Market Index- the report of regional relative progress" edited by Fan Gang
SCARE	Reciprocal of the number of listed companies based in local regions on June 18, 2006
GDP_ GROW	Average growth in regional GDP
POLITIC	A dummy variable that equals 1 if the region has a central member of the Political Bureau; and 0 otherwise
Reform company variables	
FIRM_ ENTH	The natural logarithm of reform batch
CR	Compensation rate
STATE	A dummy variable that equals 1 if it is a state-owned enterprise; and 0 otherwise
AVEROA	The average ROA over the previous 3 years

Note: The data on GDP-GROW for local regions are taken from the China Statistical Yearbook.

Regional-enthusiasm is used as a direct measure of whether a region was motivated to complete the reform process at an early stage. After two successful pilot programs, all listed companies were required to start the reform process on September 9, 2005[19]. We measure regional enthusiasm by the proportion of total market value represented by companies that completed the reform process, with a higher proportion indicating a higher degree of enthusiasm. The operating efficiency of the government and the financial market and the level of competition were relatively high in such areas, and the rule of law was relatively strong. The CSRC gave priority to listed companies in these areas because of their contributions to a normally functioning capital market and the development and improvement of the market. This is also in keeping with the original intention of the CSRC. “Shell resource” is the definition used for listed companies. A shell resource should be homogeneous and the value of the shell should remain the same[20]. To achieve balanced development across regions, the CSRC tends to give certain quotas to areas in which only a few listed companies are based. Districts with higher political status may get more IPO resources. When we test Hypothesis 1, regional-enthusiasm serves as the most important explanatory variable.

We note that the higher the level of enthusiasm for implementing the reform, the earlier the reform process was completed, and the smaller the batch of firms involved. The batches of firms that participated in the two pilot programs are defined as -2 and -1, respectively. After the start of the overall reform process, the first batch of companies to have completed the reform is defined as 1, etc. Due to the existence of two pilot groups, we adjust the batches when calculating listed company enthusiasm: firm-enthusiasm equals batch originally involved plus three. In the course of the share reform, institutional investors and non-tradable shares may have “conspired” against small and medium-sized shareholders. High compensation rates directly reflect companies’ efforts to protect small and medium-sized investors. One of the reform principles applied by the CSRC is to protect the rights and interests of small and medium-sized investors, indicating that the compensation rates paid may have affected the CSRC’s SEO resource allocation decisions. Applications made by state-owned companies may also have been accepted earlier. Profitability is a prerequisite to an SEO: the more profitable the company, the greater the chance of obtaining a quota. In examining the CSRC’s SEO policy, we regard firm-enthusiasm as the most important explanatory variable.

Table 5 lists the descriptive statistics for the other regression variables.

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19 On September 9, 2005, the State-owned Assets Supervision and Administration Commission of the State Council issued “Notices about Managing the State-owned Shares of Listed Companies in the Share Reform,” which prompted Chinese listed companies to begin their preparations for the share reform. The CSRC then took measures designed to push forward the reform in an active, steady, and orderly manner.

20 A “shell resource” refers to the qualification of a listed company to be traded publicly. The value of a shell resource is reflected in the secondary market. Shell resources result from market regulations and are characterized by the IPO quota system. A shell resource is formed by the use of an IPO quota and successful listing. A shell resource has an actual market price after listing because it is tradable (Yang, 2003).

Table 5. Descriptive Statistics for Other Variables

	N	Min	Max	Median	Mean	Std.
REGION_ENTH	31	0.410	1.000	0.800	0.787	0.140
MARKET	31	1.610	9.870	5.680	6.042	1.930
SCARE	31	0.010	0.130	0.030	0.381	0.029
GDP_GROW	31	0.120	0.319	0.180	0.194	0.045
FIRM_ENTH	985	0.000	3.760	3.045	2.745	0.813
STATE	985	0.000	1.000	1.000	0.676	0.468
CR	985	0.000	0.700	0.300	0.290	0.091
AVEROA	187	-0.082	0.187	0.046	0.048	0.039

4. Empirical Results

4.1. Test of CSRC's IPO Policy

We use multivariate analysis to test whether a region's higher level of enthusiasm for the reform process resulted in its gaining a bigger IPO quota. The OLS regression model to be estimated (Model 1) is specified as follows:

$$IPO\_GROW = a_0 + a_1\, REGION\_ENTH + a_2 MARKET + a_3 SCARE + a_4 GDP\_GROW + a_5 POLITIC + e_a$$

Table 6. Pearson Correlation Table

	IPO_GROW	REGION_ENTH	MARKET	SCARE	GDP_GROW	POLITIC
IPO_GROW	1.000					
REGION_ENTH	-0.050	1.000				
MARKET	0.274	-0.064	1.000			
SCARE	-0.025	0.046	-0.809***	1.000		
GDP_GROW	0.148	0.210	0.083	0.006	1.000	
POLITIC	0.073	0.158	0.210	-0.355**	-0.040	1.000

Notes: See Table 4 for variable definitions.
****, **, * indicate statistical significance at the 1%, 5%, and 10% levels; 31 observations.*

Table 6 shows that only the market index (MARKET) and the degree of shell resource scarcity (SCARE) variables had a significant influence, and that the regression results are not affected.

Table 7. Regression for IPO Policy

Dependent Variables	IPO_GROW		IPO_GROW1	
	Coeff.	T-stat.	Coeff.	T-stat.
INTERCEPT	-3.300	-1.564	-0.780	-0.637
REGION_ENTH	-0.099	-0.533	-0.216	0.286
MARKET	0.750**	2.435	0.324	0.335
SCARE	0.655**	2.021	0.442	0.214
GDP_GROW	0.113	0.618	0.043	0.829
POLITIC	0.182	0.920	0.265	0.222
Adj R-sq	0.066		-0.067	
N	31		31	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

Table 7 shows that the distribution of IPO quotas was not significantly affected by regional enthusiasm. Supervising the various regions was complex and it was costly to control the implementation process. Because the CSRC found it difficult to accurately assess the reform efforts made in the various regions, it found it difficult to deliver more IPO quotas to active areas. Regions with higher political status did not receive a higher quota, indicating that the influence of the CSRC in these regions had not diminished. To achieve balanced economic development across regions, the CSRC is inclined to allocate a reasonable quota to regions experiencing a scarcity of shell resources. At the same time, the CSRC's focus on the level of regional market development and the legal environment in assessing IPO applications affected regional access to IPO resources. Our empirical results show that regions that displayed a higher level of enthusiasm for the reform did not receive higher IPO quotas than other regions, and that the CSRC did not enforce its reform regulation.

Taking into account the timeliness of policy commitments, we consider that the CSRC may have implemented its regulation a relatively short time after re-opening the IPO system. Because certain regions may have benefited more than others in the first few months, we narrow our study period to the IPO-GROW1 period, which runs from June 19, 2006 to December 31, 2006. However, our results show that the effect of regional enthusiasm is still insignificant and the coefficient is negative. Furthermore, we conclude that the CSRC's IPO policy was only a symbolic call and that the policy was never implemented.

Robustness Check

The effect of the IPO policy can also be reflected in the amount of funds raised in the capital market. Listed companies that raise funds can expand their operations, thereby providing more employment opportunities and contributing more local tax revenue. We use the amount of funds raised by a company to measure IPO-GROW.

Table 8. Robustness Check for IPO Policy (I)

Dependent Variables	IPO_GROW		IPO_GROW1	
	Coeff.	T-stat.	Coeff.	T-stat.
INTERCEPT	-67.116	-0.498	-10.45	-0.350
REGION_ENTH	-0.388**	-2.167	-0.184	-0.972
MARKET	0.461	1.548	0.006	0.020
SCARE	0.552*	1.760	0.018	0.053
GDP_GROW	0.249	1.407	0.398**	2.125
POLITIC	0.314	1.646	0.228	1.130
Adj R-sq	0.128		0.026	
N	31		31	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

Table 8 shows that the level of enthusiasm for the reform in a region did not have an impact on the size of the IPO quota awarded. The results of our robustness test are in line with our previous test results.

The main explanatory variable is regional enthusiasm, which is measured by the market value of the listed companies which had completed the share reform by June 18, 2006. We use alternative variables to test the robustness of this result. Since the IPO application and approval stages took a certain amount of time, we adopt an alternative regional enthusiasm measure based on the market value of listed companies which had completed the share reform process by December 31, 2005. Table 9 presents the test results, which show that the CSRC did not give a higher IPO quota to reform-active areas.

Table 9. Robustness Check for IPO Policy (II)

Dependent Variables	IPO_GROW		IPO_GROW1	
	Coeff.	T-stat.	Coeff.	T-stat.
INTERCEPT	-4.134**	-2.320	-1.598	-1.528
REGION_ENTH 2	-0.325*	-1.697	-0.371*	-1.794
MARKET	0.963***	3.024	0.570	1.654
SCARE	0.786	2.460	0.577*	1.672
GDP_GROW	0.094	0.556	-0.000	-0.014
POLITIC	0.259	1.343	0.330	1.583
Adj R-sq	0.153		0.010	
N	31		31	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

Test of Rejected Companies

We use multivariate OLS regression Model 2 to test whether the CSRC considered regional enthusiasm for the reform process when examining IPO applications[21]:

$$IPO\_REJECT = a_0 + a_1\, REGION\_ENTH + a_2 MARKET + a_3 REGION\_OWN + a_4 GDP\_GROW + a_5 POLITIC + e_a$$

Table 10. Pearson Correlation Table

	IPO_REJECT	REGION_ENTH	MARKET	REGION_OWN	GDP_GROW	POLITIC
IPO_REJECT	1.000					
REGION_ENTH	0.079	1.000				
MARKET	-0.069	-0.064	1.000			
REGION_OWN	-0.080	-0.069	-0.838***	1.000		
GDP_GROW	0.035	0.217	0.085	0.167	1.000	
POLITIC	0.203	0.158	0.210	0.061	-0.044	1.000

Notes: See Table 4 for variable definitions.
****, **, * indicate statistical significance at the 1%, 5%, and 10% levels; 31 observations.*

Table 10 shows that only the market index (MARKET) and degree of IPO resources owned by areas (REGION_OWN) variables had a significant impact. Developed areas gained more listings and the regression results are not affected.

Table 11. Regression for IPO Rejected

Dependent Variables	IPO_REJECT		IPO_REJECT1	
	Coeff.	T-stat.	Coeff.	T-stat.
INTERCEPT	0.152	0.451	-0.135	-0.336
REGION_ENTH	0.025	0.124	0.197	0.956
MARKET	-0.115	-0.308	-0.050	-0.133
REGION_OWN	-0.004	-0.012	0.064	0.172
GDP_GROW	0.050	0.244	-0.019	-0.093
POLITIC	0.226	1.089	-0.034	-0.161
Adj R-sq	-0.131		-0.155	
N	31		31	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

21 The explanatory variables for Model 2 are the same as in Model 1 with the exception of REGION-OWN. Since the CSRC takes into account the number of listed companies based in the local region when reviewing applications, we adopt the REGION-OWN variable. REGION-OWN is measured by the number of listed companies based in the region as a proportion of the total number of listed companies in the Chinese capital market.

Table 11 reports that a high level of regional enthusiasm for the reform process did not reduce the likelihood of applications being rejected. Nor did market process, economic development level, or the number of listed companies affect the CSRC's decision. When deciding whether to approve a listing application, the CSRC mainly considers the circumstances of the company, such as its financial status and corporate governance. Thus, we conclude that active reform areas were not given favorable treatment by the CSRC.

Taking into account the timeliness of IPO policy in the share reform, we consider that the CSRC may have tilted toward active regions. We therefore narrow the study window to the June 19, 2006 to December 31, 2006 period. Our regression results show that the pace of reform and the level of economic development did not significantly affect the adoption rate. The study window for IPO-REJECT1 runs from June 19, 2006 to December 31, 2006.

Robustness Check

The main explanatory variable for the test model is regional enthusiasm, which is measured by the market value of the listed companies which had completed the share reform process by June 18, 2006. We use an alternative variable measured by the market value of the listed companies which had completed the reform by December 31, 2005 to test the robustness of our results. The study window for IPO-REJECT1 runs from June 19, 2006 to December 31, 2006. Table 12 shows that the test results are basically unchanged and that the success or otherwise of listing applications was not affected by the pace of reform.

Table 12. Robustness Check for IPO Rejected

Dependent Variables	IPO_REJECT		IPO_REJECT1	
	Coeff.	T-stat.	Coeff.	T-stat.
INTERCEPT	0.164	0.603	0.027	0.085
REGION_ENTH 2	0.045	0.207	0.21	0.962
MARKET	-0.119	-0.320	-0.077	-0.204
REGION_OWN	-0.019	-0.051	-0.009	-0.024
GDP_GROW	0.056	0.281	0.027	0.133
POLITIC	0.219	1.042	-0.049	-0.23
Adj R-sq	-0.129		-0.154	
N	31		31	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

The unit for the above test is an individual region. We adopt an alternative unit of measurement and conduct the logistic regression using the explanatory variable "IPO or not." The results remain basically unchanged.

4.2. Test of the CSRC's SEO Policy

We use another multivariate OLS regression to test whether listed companies that actively implemented the share reform obtained SEO quotas. The OLS regression model to be estimated is specified as follows[22]:

$$LogitSEO = b_0 + b_1FIRM\_ENTH + b_2CR + b_3STATE + e_b$$

SEO is a dummy variable that takes the value of 1 if the listed company was refinanced, and 0 otherwise.

For companies that had been refinanced, we use a duration model to test whether companies that completed the reform process at an earlier stage were more likely to be awarded an SEO quota earlier[23].

$$SEO_i = c_0 + c_1FIRM\_ENTH + c_2CR + c_3STATE + c_4AVEROA + e_c$$

SEO is a continuous variable in this equation. SEO is measured by the number of months from the date the refinancing was opened to the date of the refinancing.

Table 13. Pearson Correlation Table (I)

	Logit SEO	FIRM_ENTH	CR	STATE
Logit SEO	1.000			
FIRM_ENTH	-0.274***	1.000		
CR	0.020	-0.124***	1.000	
STATE	-0.058*	0.142***	0.0823***	1.000

Notes: See Table 4 for variable definitions.

****, **, * indicate statistical significance at the 1%, 5%, and 10% levels; 985 observations.*

22 Obtaining data on rejected SEO applications gives us two better choices. Firstly, when testing whether applications made by companies active in the reform process were approved more readily, we are inclined to use the sample consisting of both rejected companies and approved companies. Secondly, even where listed companies met the minimum profitability requirement for issuing additional shares, more profitable companies may have been given priority to refinance. For these reasons, we should control for the effect of company profitability if data on rejected companies and the year of rejection become available.

23 The 190 SEO companies in the sample include three listed financial companies: Shanghai Pudong Development Bank (600000), Minsheng Bank (600016), and CITIC Securities (600030). Since the profitability of financial companies is calculated in a different manner, our test of profitability (AVEROA) excludes all three financial companies in the SEO sample.

Table 14. Pearson Correlation Table (II)

	SEO_i	FIRM_ENTH	CR	STATE	AVEROA
SEOi	1.000				
FIRM_ENTH	0.334***	1.000			
CR	-0.182**	-0.190***	1.000		
STATE	-0.045	0.197***	0.035	1.000	
AVEROA	0.023	-0.212***	0.020	0.042	1.000

Notes: See Table 4 for variable definitions.
****, **, * indicate statistical significance at the 1%, 5%, and 10% levels; 187 observations.*

Tables 13 and 14 show that the probability of being refinanced and the batch are significantly negatively correlated. At the same time, the time required for the SEO application and the batch have a significantly positive correlation. The test results are in line with our hypotheses.

Table 15. Regression for SEO Policy

Dependent Variables	LogitSEO		SEOi	
	Coeff.	T-stat.	Coeff.	T-stat.
INTERCEPT	0.634*	4.003		
FIRM_ENTH	-0.751***	62.638	0.263***	9.074
CR	-0.209	0.152	-1.212***	7.959
STATE	-0.076	0.182	-0.224	1.938
AVEROA			1.780	0.863
Max-rescaled R-sq	0.106			
N	985		187	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

Table 15 indicates that listed companies with a higher level of enthusiasm (smaller batch) needed less time to complete the reform and were able to secure an SEO quota more easily. Furthermore, the earlier the company completed the reform, the earlier it secured an SEO quota[24]. To qualify for a refinancing, companies usually sought to speed up the reform process by paying a higher compensation rate. State-owned companies were able to obtain SEO resources more easily than private companies, although the coefficient is not significant.

[24] The share reform process was initiated on April 29, 2005 and the first refinancing was completed on May 18, 2006. Companies had to wait for more than six months before refinancing even if they had completed the reform process. Refinancing was postponed during this six-month period. Companies that completed the reform process later were able to secure an SEO quota earlier if the CSRC did not consider the level of enthusiasm for the reform process at all.

Taking into account the timeliness of SEO policy commitments, we consider that the CSRC is likely to have enforced its regulation within a relatively short time after re-opening an SEO. If a large number of listed companies completed the reform, the CSRC was bound to weaken the policy incentives available. For this reason, we divide the study period into two periods: period I (2005.04.29 - 2005.12.31), and period II (2006.01.01 - 2006.06.18). Table 16 reports the test results.

Table 16. Regression for SEO Policy (two periods)

Dependent Variables	Period I				Period II			
	LogitSEO		SEO_i		LogitSEO		SEO_i	
	Coeff.	Wald	Coeff.	Wald	Coeff.	Wald	Coeff.	Wald
INTERCEPT	0.083	0.047			5.885**	6.640		
FIRM_ENTH	-0.419***	7.519	0.234*	3.386	-2.294***	11.238	0.846	1.256
CR	0.245	0.158	-1.175***	7.236	-2.204	2.453	-0.232	0.872
STATE	-0.288	1.569	-0.216	1.236	0.188	0.378	-0.260	0.714
AVEROA			1.218	0.304			5.714	1.466
Max-rescaled R-sq	0.041				0.046			
N	407		122		578		65	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

During period I, applications made by companies active in the reform process were readily approved. Earlier completion of the share reform process and a higher compensation rate ensured that listed companies secured an SEO quota at an earlier date. During period II, although applications made by companies active in the reform process were also readily approved, the date on which they qualified for refinancing was not affected by the reform completion date. As the reform process wore on, an increasing number of companies satisfied the conditions for SEOs. In allocating refinancing resources, the CSRC did not attach great importance to the level of enthusiasm for the reform.

Robustness Check

As noted above, the level of enthusiasm for the reform among listed companies is measured by the adjusted batch. We use the period the company took to complete the reform process as a sensitivity check[25]. The results are as follows:

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[25] This refers to the length of time from the completion of the share reform to the date of the SEO policy announcement, and is measured in months.

Table 17. Robustness Check for SEO Policy

Dependent Variables	LogitSEO		SEOi	
	Coeff.	Wald	Coeff.	Wald
INTERCEPT	0.613**	3.892		
FIRM_ENTH	-0.234***	65.491	0.071***	6.858
CR	-0.212	0.145	-1.275***	9.060
STATE	-0.118	0.436	-0.199	1.545
AVEROA			1.541	0.651
Max-rescaled R-sq	0.118			
N	985		190	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

Table 18. Robustness Check for SEO Policy (two periods)

Dependent Variables	Period I				Period II			
	LogitSEO		SEOi		LogitSEO		SEOi	
	Coeff.	Wald	Coeff.	Wald	Coeff.	Wald	Coeff.	Wald
INTERCEPT	0.252	0.352			1.640	2.245		
FIRM_ENTH	-0.175***	7.716	0.071	2.003	-0.299***	10.532	0.083	0.682
CR	0.284	0.215	-1.223***	8.033	-2.344*	2.737	-0.301	0.044
STATE	-0.294	1.641	-0.198	1.025	0.194	0.407	-0.276	0.816
AVEROA			1.022	0.214			5.401	1.319
Max-rescaled R-sq	0.042				0.044			
N	407		122		578		65	

*Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels.*

In contrast with the results shown in Tables 15 and 16, the results shown in Tables 17 and 18 are relatively stable. The refinancing needs of companies that completed the reform process at an early date were met before those of others. Companies that paid a higher compensation rate gained access to SEOs at an early date. The results of our robustness checks support our hypotheses.

Test of Quality of Reformed Company

The CSRC's SEO policy gave a great reform incentive to listed companies. The previous test shows that companies that actively implemented the reform were given SEO quotas at an earlier date. Nevertheless, two important questions remain: did the CSRC's SEO policy induce listed companies to engage in opportunistic behavior, and did some low-quality companies qualify for SEOs by accelerating the reform process? To answer these questions, we compare the quality of listed companies before and after the share reform.

The test results described above do not take into account whether average ROA over the previous three years affected the length of time needed to gain an SEO quota. We examine the quality of listed companies in terms of discretionary accruals, the type of audit opinion received, and legal and regulatory violations. One of the major reasons companies receive non-standard audit opinions is poor corporate governance. A sound governance structure can reduce the likelihood that a listed company will receive a non-standard audit opinion (Wang and Peng, 2007). Corporate law mandates that companies operate in a lawful manner and that board of directors, supervisors, and managers be honest and trustworthy. When a company is punished by the CSRC for a regulatory violation, it casts doubt on whether the company is operated in a normal manner and calls into question its quality.

We classify the 190 listed companies that refinanced during the study period into four categories, A, B, C, and D, in terms of "completion time" and "implementation time."

Table 19. Classification of Samples

Share Reform \ SEO	2006	2007	Total
2005	A (41)	B (83)	124
2006	C (10)	D (56)	66
Total	51	139	190

Table 19 lists the specific classifications for the SEO sample. 124 companies which completed the reform process in 2005 secured SEOs, while only 66 companies were refinanced in 2006. Companies that completed the reform process at an early stage were awarded more SEO quotas, a result that accords with "early reform-oriented policies." To avoid excessive concentration of financing pressure in the market and stabilize market expectations, only 41 companies implemented refinancing in 2006, and 83 in 2007. Table 19 indicates that most of the companies which completed the share reform in 2006 were awarded SEO quotas in 2007.

Table 20. Test of Discretionary Accruals in the Previous Year

Company Type	N	Mean	Median	T	Z
A	39	-0.003	0.014	0.658	0.608
C	9	-0.036	0.004		
B	82	0.013	0.015	0.031	0.392
D	56	0.012	0.003		
A+B	121	0.008	0.015	0.121	0.354
C+D	65	0.006	0.004		

Table 20 shows that there is no significant difference between the earnings quality of companies which completed the reform process in 2005 and those that completed the reform process in 2006.

Table 21. Distribution of Non-standard Audit Opinions and Penalty Cases

	Non-standard Audit Opinions		Penalty Cases	
	SEO_{-1}	SEO_{-0}	SEO_{-1}	SEO_{-0}
A	0	0	0	0
B	0	1	0	0
C	0	0	0	0
D	3	1	0	1

Table 21 presents the distributions of non-standard audit opinions and listed company penalty cases resulting from violations in the SEO year and the previous year. We are unable to conduct a Chi-square test due to small sample size; the statistics we give are descriptive.

Only one company which completed the reform process in 2005 was issued with a non-standard audit opinion. By comparison, 4 companies which completed the reform process in 2006 were issued with a non-standard audit opinion. Category A is the best in terms of audit opinions, because no company in this category was issued with a non-standard audit opinion in either the SEO year or the previous year. Category D is the worst in terms of corporate governance, with 4 companies being issued with non-standard audit opinions.

The distribution of penalty cases shows that companies in categories A, B, and C were operated legitimately and properly over the previous three years. Only one company in category D was punished by the CSRC for failing to disclose important information in a timely manner. Both the audit opinion and penalty case data provide evidence consistent with the earnings quality data. There is no significant difference between the early reform companies and the companies that reformed at a later date.

Test of the Economic Consequences of the SEO Regulation

The CSRC enforced the SEO regulation among listed companies in the course of the share reform. Since the SEO regulation served as an arrangement, it may bring certain economic consequences. We also pay close attention to the impact of the regulation on the allocation of the following resources.

Table 22. Test of ROA in the SEO year

Company Type	N	Mean	Median	T	Z
A	40	0.060	0.057	-0.819	0.000
C	9	0.086	0.046		
B	82	0.073	0.066	-0.341	0.761
D	56	0.070	0.059		
A+B	122	0.069	0.063	-0.467	0.504
C+D	65	0.073	0.058		

First of all, we test for the ROA of listed companies in the SEO year. Table 22 reports profitability among the four categories of firms. The average ROAs for companies which completed the reform process in 2005 and 2006 are 6.3% and 5.8%, respectively, with no significant difference between the two. Among the companies that implemented SEOs in 2006, the average ROA for category A firms was 6.0% and the average ROA for category C firms was 8.6%, with no significant difference. Among the companies that implemented SEOs in 2007, the average ROA for category B firms was 7.3% and the average ROA for category D firms was 7.0%, with the difference remaining insignificant. These results show there was no significant difference in the profitability of companies in the early and late reform groups.

Table 23. Test of Discretionary Accruals in the SEO year

Company Type	N	Mean	Median	T	Z
A	40	0.004	0.001	-0.827	-0.891
C	9	0.046	0.038		
B	82	0.019	0.002	-0.112	-0.585
D	56	0.020	0.007		
A+B	122	0.014	0.002	-0.556	-0.954
C+D	65	0.023	0.023		

We further examine discretionary accruals in the SEO year as an extra measure of listed company quality. The results shown in Table 23 indicate that there was no significant difference in discretionary accruals between early and late reformers. We conclude that the CSRC's SEO regulation did not affect resource allocation efficiency in the stock market.

5. Conclusions and Limitations

In the context of the transitional economy of the Chinese mainland, we investigate the efficiency of different forms of government regulation. We find that when the entity being regulated is complex and the regulation itself is implemented in the absence of explicit rules, regulation is ineffective, and that when the regulation is brief, concentrated, forceful, and highly focused, it does not necessarily induce the problem of opportunism.

Taking the CSRC regulations implemented among companies and across different regions in the course of the share reform as an example, the complexity involved in implementing the share reform in different regions led to very high operating costs, and the CSRC did not have explicit criteria for assessing the level of enthusiasm with which different regions implemented the share reform. It was also difficult for local governments to assess to what extent the CSRC emphasized the reform. As a result, the CSRC did not take into account the enthusiasm shown by different regions in allocating IPO quotas. These problems made the regulation redundant. The CSRC did not award higher IPO quotas to more passive areas. We also find that corporations that completed the share reform process at an earlier stage secured refinancing quotas more easily. The CSRC seems to have assessed the degree of devotion shown by individual corporations in the share reform. It delivered on its SEO policy commitment to listed corporations and implemented the regulation effectively. Nor did the CSRC relax its standards when awarding SEO quotas to corporations that completed the share reform process earlier. The quality of corporations that completed the share reform was comparable to that of other firms, indicating that the CSRC regulation did not affect the efficiency of the capital market. In the SEO year, the difference between the quality of corporations that completed the share reform earlier and later was not significant.

This paper provides empirical evidence on the efficiency of government regulation implemented subject to different constraints. Our study is helpful to understand the efficiency and limitations of government regulation in a transitional economy and in assessing how governments can improve the effectiveness of their regulations. It is also of interest to accounting and financial researchers in that a company's accounting and financial decisions can be influenced by government regulation at any time.

Our study has a number of limitations. First, our sample size is too small for an examination of the effect of CSRC IPO policy across regions. Due to our focus on regional activism in implementing the share reform, our regional sample is limited to the 31 Chinese provinces, autonomous regions, and municipalities. This may influence the robustness of our conclusions. Second, hidden regulatory policy may exist, which means that we may not have considered all applicable regulatory requirements. Third, while the benefits of regulation are clear, the costs of regulation can sometimes be obscure. Although we do not find that regulation induced opportunistic earnings management, this does not necessarily mean that the benefits of regulation outweigh the costs. This is an issue that is outside the scope of this paper. These limitations should be addressed and resolved in future research.

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